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FARMER'S OWN BOOK;

OR

FAMILY RECEIPTS

FOR THE

HUSBANDMAN AND HOUSEWIFE;

BEING A COMPILATION OF THE

VERY BEST RECEIPTS

ON

AGRICULTURE, GARDENING AND COOKERY;

WITH RULES FOR

KEEPING FARMERS' ACCOUNTS.

BY H. L. BARNUM,

EDITOR OF THE FARMERS' REPORTER.

STEREOTYPE EDITION.

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PREFACE.

THE title and contents of this work present a better preface, perhaps, than could be given by enumerating all the claims usually accompanying the introduction of books.

An attempt to assume any thing more than *utility* in this case, might convict me of the "crime" so frequently charged against the quill fraternity; vulgarly called "clipping books and cabbaging ideas."

Many original recipes are given, but the majority of them are borrowed from the most celebrated American and European works.

The "*Domestic Encyclopedia*," "*New American Gardener*," "*American Farmer*," "*New-England Farmer*," "*Journal of Health*," "*Genesee Farmer*," "*Mackenzie's Receipts*," "*Farmer's Guide*," "*Loudon's Agricultural Encyclopedia*," "*Dean's New-England Farmer*," "*New-York Farmer*," "*Farmer's Assistant*," "*Farmer's Manual*," "*Edinburgh Encyclopedia*," and "*Library of Useful Knowledge*," are the principal works referred to in selecting the matter.

The whole taken together comprises a valuable book for families of any occupation or situation in life. I do not feel disposed to puff, but having given credit to others for the matter, no delicacy is felt in representing the work in its true character.

PREFACE.

If “method is the soul of management, then the prosperity and happiness of a family depend greatly on the order and regularity established in it. There is economy, as well as comfort, in a regular mode of doing business.”

Many husbandmen and housewives attend to the various duties devolving upon them in their domestic concerns without any rule, system, or order, and therefore trust entirely to the precariousness of chance.

The design of this work, is to obviate this difficulty, by giving, in few words, such rules as will *secure* beneficial results in the most important branches of Domestic Economy.

THE COMPILER.

AGRICULTURE.



TO PRESERVE GRAIN.

A discovery of considerable importance has been announced, with regard to preserving grain. To preserve rye, and secure it from insects and rats, nothing more is necessary than not to fan it after it is threshed, and to stow it in the granaries mixed with the chaff. In this state it has been kept more than three years, without experiencing the smallest alteration, and even without the necessity of being turned to preserve it from humidity and fermentation.—The experiment has not yet been made with wheat and other kinds of grain, and they may probably be preserved in chaff with equal advantage.

TO PRESERVE EGGS.

Apply with a brush a solution of gum Arabic to the shells, or immerse the eggs therein, let them dry, and afterwards pack them in dry charcoal dust.—This prevents their being affected by any change of temperature.

TO PRESERVE BEES FROM WORMS AND BUTTERFLIES.

About the first of May, raise the hive up, and strew some fine salt under the edge. This will drive those insects away.

TO PURIFY TALLOW FOR CANDLES.

Take 5-8 of tallow, and 3-8 of mutton suet; melt them in a copper chaldron, with it mix 8 ounces of brandy, one of salt of tartar, one of sal ammoniac, two of dry potash. Throw the mixture into the chaldron, make the ingredients boil a quarter of an hour, then set the whole to cool. Next day the tallow will be found on the surface of the water in a pure cake. Take it out and expose it to the air for some days on canvass. It will become white and almost as hard as wax. The dew is favorable to its bleaching. Make your wicks of fine even cotton; give them a coat of melted wax, then cast your mould candles. They will have the appearance of wax in a degree, and one of them (six to a pound) will burn fourteen hours and not run.

BARLEY, TO INCREASE.

To increase a crop of barley, dissolve three pounds of copperas in a pail of boiling water. Add to this as much dung puddle water as will cover three or four bushels of barley. Stir it, and let it steep four and twenty hours; when the seed is drained and spread, sift on fine lime, which fits it for sowing. Steeping the seed about twenty-four hours in the wash of a dunghill, without any mixture, is said to produce a very good effect.

TO DESTROY ANTS.

The farmer, when he manures his land, if he will use ashes, lime, salt or sand, will not be troubled with those insects. Dr. Rees' Cyclopædia recommends boiling rain water with black soap and sulphur, and saturating the ground with it, which is infested with ants.

TO MAKE CIDER.

In making cider see that the mill, the press, and all the materials be sweet and clean, and the straw free from must. The fruit should be ripe, but not rotten, and when the apples are ground, if the juice is left in pumice 24 hours, the cider will be richer, softer and higher colored. If the fruit be all of one kind it is generally thought that the cider will be better; as the fermentation will be more regular. The juice of the fruit, as it comes from the press, should be placed in open headed casks or vats: in this situation, it is likely to undergo a proper fermentation, and the person attending may, with great correctness, ascertain when the first fermentation ceases; this is of great importance, and must be particularly attended to. The fermentation is attended with a hissing noise, bubbles rising to the surface and there forming a soft spungy crust over the liquor. When this crust begins to crack, and a white froth appears in the cracks level with the surface of the head, the fermentation is about stopping. At this time the liquor is in the fine genuine clear state, and must be drawn off immediately into clean casks; and this is the time to fumigate it with sulphur. To do this, take a strip of canvass or rag, about two inches broad and twelve inches long, dip this into melted sulphur, and when a few pails of worked cider are put into the cask, set this match on fire and hold it in the cask till it is consumed, then bung the cask and shake it, that the liquor may incorporate with, and retain the fumes; after this, fill the cask and bung it up. This cider should be racked off again the latter part of February, or first of March; and if not as clear as you wish it, put in izinglass, to fine, and stir it well; then put the cask in a cool place where it will not be disturbed, for the finery to settle. Cider, prepared in this manner, will keep sweet for years.

Mr. Deane observes "I have found it answer well to do nothing to cider till March, or the beginning of April, except giving a cask a small vent hole, and keeping it open till the first fermentation is over; then draw it off into good casks; and fine it with skim milk, eggs broke

up with the shells, or molasses. A quart of molasses will give a fine flavour to a barrel of cider, as well as carry all the lees to the bottom. But lest it should incline the liquor to prick, or become sour, I put in at the same time a quart of rum or brandy; and it seldom fails of keeping well to the end of summer. Cellars in which cider is kept, should have neither doors nor windows kept open in the summer, and the casks should stand steady and not be shaken to disturb the sediment.

The casks which contain new cider should be filled perfectly full to permit the froth or pumice to discharge itself at the bung. The pressure of the pumice should be slow that the liquor may run the clearer. Some say that if the cider be racked off in a week after it is made, ceasing the moment it becomes muddy; in ten days a second time, and in fifteen days a third time, it will need no other process for fining or purifying it. In every instance the casks should be clean, and perfectly filled, and when filled for the last time should be bunged up close, and placed in a deep, dry cellar, never to be moved till drawn off for use.

The later the apples hang on the trees, the more spirit the cider will contain. In bottling cider it is recommended to raise the proof of the cider by putting in about two tea spoonfuls of French brandy to each bottle, which will check fermentation, and prevent the bursting of the bottles.

TO KILL COCK-ROACHES.

It is said that a few leaves of elder, strewed on the floor of a room infested with cock-roaches, will extirpate those insects.

TO KEEP APPLES FOR WINTER USE.

Put them in casks or bins, in layers, well covered with *dry* sand; each layer being covered. This preserves them from the air, from moisture, and from frost; it prevents their perishing by their own perspiration, their moisture being absorbed by the sand; at the same time, it preserves the flavor of the apples, and prevents their

wilting. Pippins have been kept in this manner sound and fresh, till midsummer; and how much longer they would have kept is not known. Any kind of sand will answer, *but it must be perfectly dry.*

PRESERVATION OF PLUMS, PEACHES, &c.

An English publication states that plums and peaches may be preserved sweet through the year by the following process: 'Beat well up together equal quantities of honey and spring water; pour it into an earthen vessel, put in the fruits all freshly gathered and cover them quite close. When any of the fruit is taken out, wash it in cold water, and it is fit for immediate use.'

CURE FOR MUSTY CORN.

Immerse it in boiling water, and let it remain till the water becomes cold. The quantity of water should be at least double the quantity of corn to be purified.

TO FEED FOWLS.

Corn given to fowls should be crushed and soaked in water; this helps digestion, and hens will lay in winter that are so fed that would not otherwise.

Feed your fowls in winter with bones, pounded fine; and they will need less corn, and lay as plentifully as at any season of the year. The bones supply the carbonate of lime, which is necessary for the production of the shell, and a part of the yolk of the egg.—Egg shells, oyster shells, chalk or unburnt lime answer a similar purpose.

TO DESTROY THE BEE-MILLER.

To a pint of sweetened water (sweetened with sugar or honey,) add half a gill of vinegar; set this in an open vessel on the top of the hive, and at night, when the miller comes to his work of destruction, he will prefer this composition, and diving into it, will immediately drown. This simple method, is almost certain success. At all events, it is worthy of attention; and we would recommend to the owners of bees to make a trial of it.

PERFUMES A PREVENTIVE AGAINST MOULDINESS.

Dr. M'Culloch, of Edinburgh, has published a paper in the Philosophical Transactions of the city, in which he points out that all essential oils possess the property of preventing the growth of mould. His observations are of such general utility, that I copy them for public benefit.

Ink, paste, leather, and seeds, are among the common articles which suffer from this cause, and to which the remedy is usually applicable. With respect to articles of food, such as bread, cold meats, or dried fish, it is less easy to apply a remedy, on account of the taste. Cloves, however, and other spices whose flavors are grateful, may sometimes be used for this end; and that they act in consequence of this principle, and not by any particular antiseptic virtue, seems plain, by their preventing equally the growth of those minute cryptogamous plants on ink, and other substances not of an animal nature.

"The effect of cloves in preventing the mouldiness in Ink, is indeed generally known; and it is obtained in the same way by oil of lavender, in a very minute quantity, or by any other of the perfumed oils.

"To preserve leather in the same manner from this effect, is a matter of great importance, where the labor employed in cleaning harness and shoes is a cause of considerable expense, and where much injury is occasionally sustained from this cause. The same essential oils answer the purpose, as far as I have had an opportunity of trying effectually. The cheapest, of course, should be selected, and it would be necessary to try oil of turpentine for this reason.

"It is a remarkable confirmation of this circumstance, that Russian leather, which is perfumed with the tar of the birch tree, is not subject to mouldiness, as must be well known to all who possess books thus bound. They even prevent it from taking place in those books bound in calf near to which they happen to lie. The fact is particularly well known to Russian merchants, as they suffer bales of this article to lie in the London docks in the most careless manner, for a great length of time, knowing well that they can sustain no injury of this

ture from dampness, whereas common curried leather requires to be opened, cleansed, and ventilated. Collectors of books will not be sorry to learn, that a few drops of any perfumed oil will insure their libraries from this pest.

“Dr. M. began some experiments with the same agents on wood, to prevent the dry rot, but not having time to carry them on, he recommends the important investigation to others.—With regard to paste, he prefers rosin to alum as a preservative; but lavender, or any other strong perfume, such as peppermint, anise, and burgamot, are perfectly effectual for years, however the paste is composed.” That which the Doctor himself employs in labelling, &c. is “made of flour in the usual way, but rather thick, with a proportion of brown sugar, and a small quantity of corrosive sublimate. The use of the sugar is to keep it flexible, so as to prevent its scaling off from smooth surfaces; and that of the corrosive sublimate, independently of preserving it from insects, as an effectual check against its fermentation. This salt, however, does not prevent the formation of mouldiness. But as a drop or two of the essential oils above mentioned is a complete security against this, all the causes of destruction are effectually guarded against. Paste made in this manner, and exposed to the air, dries without change to a state resembling horn; so that it may at any time be wetted again and applied to use. When kept in a close covered pot, it may be preserved in a state for use at all times.”

He then proceeds—“This principle seems also applicable to the preservation of seeds, particularly in cases where they are sent from distant countries by sea, when it is well known that they perish from this cause.—Dampness, of course, will perform its office at any rate, if moisture is not excluded; yet it is certain that the growth of the vegetables which constitute mould, accelerate the evil, whether by retaining moisture, or by what means is not very apparent. This in fact, happens equally in the case of dry rot in wood, and indeed in all others where this cause operates. It is a curious illustration of the truth of this view of a remedy, that

the aromatic seeds of all kinds are not subject to mould, and that their vicinity prevents it in others with which they are packed; they also produce the same effect daily, even in animal matters, without its being suspected. I need only remark, that it is common to put pepper into collections of insects or birds, without its having been remarked that it had the same power of keeping off mould, as of discouraging or killing the insects that commit ravages in these cases.

“In concluding these hints, I might add, in illustration of them, that ginger-bread and bread containing caraway seeds is far less liable to mouldiness, than plain bread. It will be a matter worthy of consideration how far flour might be preserved by some project of this kind.

TO DESTROY RATS.

A correspondent, who had noticed in a recent number of our journal, a paragraph recommending ground cork, fried in grease, as an efficacious plan for destroying rats, states, that he lately put the plan to the test of experience, and completely succeeded. “The case was that of two old women in the village of Denny, who had lived in two detached garret rooms of the same building. The rats had long been troublesome, but at length had become so numerous and daring, that they fairly threatened to challenge the tenants with no longer possession. The fried cork had only been laid for them three nights, before the whole disappeared. A fact of this kind cannot be made too public, since it may be the means of preventing many of those serious accidents which so frequently occur from the use of poison.”

TO PREVENT SMUT IN WHEAT.

Take of best soft green soap, made from fish oil, 1 pound, and of scalding water, 4 gallons. Put the soap into a glazed vessel with a small portion of the water; continue stirring it, and add the water as it dissolves, till the whole is a perfect ley. It should be used about

90 degrees of Fahrenheit's thermometer, or new-milk warm. Put the wheat into a tub, and pour on it a quantity of the liquor sufficient to cover it completely, and throw a blanket over it to preserve the heat. Stir it every ten minutes, and take off the scum. When it has remained in this manner for an hour, drain the liquor from the wheat through a sieve, or let the tub be furnished with a drain bottom like a brewing vat. Let the liquor which was drawn off, stand a few minutes to subside, and then pour it off the sediment. Repeat the operation till the whole quantity is steeped, only observe to add, each time, as much hot ley as was observed by the former steeping. Dry the wheat with quick lime, and sow as soon as convenient. It will keep ten days after steeping; but should be spread thin on a dry floor.

If a tub with a drain bottom is used, such as a hogs-head, with a spigot to draw off the ley, 4 ounces of soap, and 1 gallon of water scalding hot, will preserve a stock of warm ley sufficient for any quantity of wheat. The operation should be performed in a clean place, at a distance from barns and granaries, the roofs of which may be observed hanging full of smut. The refuse of smutted wheat should be buried deep in the earth, and not thrown to the dunghill, from which it would be conveyed to the field.

TO PRODUCE EARLY POTATOES IN GREAT QUANTITY.

Early potatoes may be produced in great quantity by resetting the plants, after taking off the ripe and large ones. A gentleman at Dumfries, has re-planted them six different times in one season, without any additional manure, and instead of falling off in quantity, he gets a larger crop of ripe ones at every raising, than the former ones. His plants have still on them three distinct crops, and he supposes they may still continue to vegetate and germinate until they are stopped by the frost. By this means he has a new crop every eight days.

TO DESTROY THE FLY ON TURNIPS.

Lime sown by the hand, or distributed by a machine, is an infallible protection to turnips against the ravages of the fly. It should be applied as soon as the turnips come up, and in the same daily rotation in which they were sown. The lime should be slacked immediately before it is used; if the air be not sufficiently moist to render that operation unnecessary.

TO PRESERVE GRAIN FROM VERMIN.

To preserve rye, and secure it from insects and rats, nothing more is necessary than not to winnow it after it is threshed, and to stow it in the granaries mixed with the chaff. In this state it has been kept for more than three years without experiencing the smallest alteration, and even without the necessity of being turned, to preserve it from humidity and fermentation.—Rats and mice may be prevented from entering the barn, by putting some wild vine or hedge plants upon the heaps: the smell of this wood is so offensive to these animals that they will not approach it.

TO DESTROY SLUGS ON LAND.

Procure some fresh lime, and after throwing as much water upon it as will reduce it to a powder, sow the lime in a hot state upon the land that is overrun with vermin, at the rate of about 12 bushels to the acre. The lime should be sown towards the wind, and falling upon them in a fermented state, will instantly kill them.

DAMAGED HAY.

In the year 1790, which was remarkable for the quantity of rain, that fell during the hay season, the farmers suffered great loss from the thousands of heads of cattle which perished from eating damp hay. This fact ought to put farmers on the guard against any similar effects at the present time. The efficacy of salt in curing hay is now almost universally known; but the best advice, perhaps, which can be given, is to be careful as to the quantity given.

TO DESTROY HOUSE-FLIES.

These troublesome little insects may be effectually destroyed without the use of poison.—Take half a spoonful of black pepper in powder, one tea-spoonful of brown sugar, and one table-spoonful of cream; mix them well together, and place them in the room on a plate, where the flies are troublesome, and they will soon disappear.

REMEDY AGAINST BAD WATER.

A highly respectable gentleman in Connecticut, who used to visit Ohio yearly, gave me the following prescription. Being from early life a water drinker, he applied to the late Dr. Osborn, of Middletown, to give him a substitute. The doctor told him to furnish himself with a mixture, of equal proportions, of pulverised sugar and ginger, and whenever he drank the bad water of the west, to put in as much of the composition as suited his taste, and he need never apprehend bad effects from a free use of the water.

PRESERVATION OF SEEDS.

M. D'Arget has preserved corn, which had been infested by weevils, for a considerable time by putting it into vessels, previously filled with sulphurous acid. All the weevils perished, and the corn ceased to suffer. In this manner insects in seeds may not only be destroyed, but their presence prevented. As it might be inconvenient to burn sulphur in the vessels to be filled with sulphurous acid, we will state another method of replacing the acid, and obtaining the same results. All that is necessary is, to powder the seeds well with flour of sulphur, before they are put into the bottles or other vessels; or after having put the seeds into a bottle the sulphur may be added, and the whole well shaken together, so as to bring it in contact with all the seeds. The presence of the sulphur will prevent entirely the attacks of the insects.

SIMPLE METHOD OF DESTROYING THE HESSIAN FLY.

The Hessian Fly deposits its eggs on the wheat ear before it is reaped; the egg is so small as to be invisible to the naked eye, but may be distinctly seen with a microscope; sometimes one grain of wheat will be observed to have several of these eggs on it. They are attached to the wheat by a glutinous substance, deposited around them by the parent fly, by which they are held so firmly on the surface, as not to be easily removed by the motion of reaping, threshing, &c. Shortly after the seeds begin to germinate in the soil, the genial heat of the season brings the young fly from its egg in the form of a very small maggot (as is the case with all insects;) these little maggots deposit themselves at the root of the stalk, to the seed of which the eggs had been attached, between the stem and the lowest blade or leaf, where they may be discovered during the month of May and beginning of June quietly reposing: here they remain until the warmth of the season brings them to maturity, when they commence eating the substance to which they are attached. It is not until this period that their destructive effects are visible, by the wheat becoming withered and blighted. This accounts for the fact that wheat, which is attacked by these destructive insects, presents a healthy appearance in the month of June, the period at which the embryo-fly begins to use food.

Now it is evident that if the eggs of this fly can be destroyed on the seed wheat, by any process that will not also destroy the vegetative quality of the grain, the ruinous effects will be avoided.—This can be done by the following very simple process. “Soak the seed wheat in water for twelve hours; spread it out on the barn floor, so as to allow the superabundant water to escape: then take fresh slacked lime and mix it among the wheat in quantity sufficient to have every grain covered with the lime, taking care to stir the wheat well with a shovel, so that no particle may escape coming in full contact with the lime, which, when thus applied, will in a short time destroy the eggs, and consequently preserve the grain from destruction.”

The egg, which before the application of the lime appears clear and transparent, afterwards becomes opaque, and puts on the appearance of an addled egg. The efficacy of the above remedy has been established by several experiments, one of which we here relate. Wheat supposed to be infested by the Hessian fly, was taken, one half of the quantity treated with lime, and the other half was sown in the same soil with the prepared, in alternate drills; the result was that every stalk from the prepared seed came to maturity and was productive, whilst the alternate drills which had been sown with unprepared seed, were almost totally destroyed.

The above remedy for so serious an evil cannot be too widely circulated.

TO KEEP BEEF.

A country housekeeper, to whom a sirloin or a steak is not an every day treat, has been taught, by necessity, *how to keep beef*; an art unknown in towns, where daily access can be had to markets; but it is a most valuable secret, equal to that of *keeping venison*, so highly prized by the quins and aldermen of England; and I here propose, without the prospect of any other reward than the hope of an honest fame, to communicate it to the American public.

Beef is never fit to be eaten in steaks until a week after being killed. If a piece of beef is suspended by a hook and string in a dry cellar, so as not to touch the wall, it will, in our hot climate, in the hottest season of summer, keep from one to two weeks without a particle of salt; and in winter it will keep from eight to ten weeks. I have this winter kept it two months, with a constant and great improvement to the last, and have no doubt I might, with increasing benefit, have kept it for a month longer. No one, without the proof, can believe how astonishingly it will improve in tenderness and flavor after being kept a due length of time, and it doubtless is much more wholesome than rank, tough beef, that is laboriously masticated to become a cause

of dyspepsia in some and bilious fevers in others, as the town doctors assure us. I beg to recommend this keeping of beef to all house-keepers in town and country, satisfied that after one fair trial, they would no more feed on a recently slaughtered ox than they would on an Abyssinian steak with Caffrarian garnishments.

P. S. Freezing meat, (a practice not advised) preserves it in one state without much improvement.

TO MAKE OLD FEATHERS BETTER THAN NEW.

If the feathers of old beds have become dirty, matted, or have lost their elasticity, by age or use, they should be emptied into a hogshead and washed in warm soap suds, agitated by means of a rake or garden hoe, and afterwards rinsed in clear water. They are then to be pressed dry by the hand, and put upon the floor of an empty well lighted room, and now and then whipped and stirred up; and when thoroughly dry put again into ticks. They will be found after this *better than new feathers*; because deprived of the oil which abounds in the latter.

TO DESTROY WEEDS.

If you have not had time to root out all the weeds on your premises, you will at least endeavour to prevent their going to seed by cutting off the tops with a scythe or sickle, and it will be good economy to lodge the proceeds of your cuttings in your barn yard, or compost bed. An antidote to the increase of weeds may be found in burning the stubble as it stands after reaping. On land that is designed to be sown the next year, this is more especially good husbandry; for it will destroy so many of the seeds of weeds, as to prevent the ensuing crop from being so weedy as it might otherwise be. At the same time this process will destroy many insects, clean the ground, and render it fit for the operations of tillage, besides fertilizing the soil by the ashes of the stubble.

PREVENTION OF MILDEW ON PEACH TREES.

The following preventive of the mildew on Peach and Nectarine trees has simplicity, as well as the experience of many years, to recommend it:—Take of sulphur and rain or river water, in proportions of two ounces of sulphur to every four gallons of water. Put the quantity which may be required into a copper or boiler, and let it (after it commences boiling) boil for half an hour: after which it may be taken out, or suffered to remain until it becomes of a tepid state, when it ought to be applied to the trees by means of the garden engine or syringe, as in a common washing with water. The time for applying it is annually, as soon as the fruit is set and considered out of danger.

SAYINGS FOR FARMERS.

Sloth, like rust, consumes faster than labour wears, whilst the used key is always bright. Dost thou love life? Then do not squander *time*, for that is the stuff life is made of. The sleeping fox catches no poultry. He that rises late must trot all day, and shall scarce overtake *his business* at night.

Early to bed and early to rise,
Makes a man healthy, and wealthy, and wise.

He that lives upon hope will die fainting—industry need not *wish*. There are no gains without pains. At the working man's house hunger looks in, but never enters. Plough deep, while sluggards sleep, and you shall have corn to sell or to keep. One *to-day* is worth two *to-morrows*. Handle your tools without mittens—a cat in gloves catches no mice.

He that by the plough would thrive,
Himself must either hold or drive.

The eye of a master will do more work than both his hands. Not to oversee your workmen is to leave them your purse open. A little neglect may breed a great mischief—for want of a nail the shoe was lost, and for want of a horse the rider was lost. A fat kitchen makes a lean will. If you would be rich, think of *saving* as well as getting. What maintains one vice would

bring up two children. Beware of *little* expenses—a small leak will sink a great ship. If you would know the want of money, go and try to borrow some—for he that goes a borrowing goes a sorrowing. Pride is as loud a beggar as want, and a great deal more saucy. Pride breakfasted with plenty, dined with poverty, and supped with infamy. Lying rides on debt's back. It is hard for an empty bag to stand upright. Creditors have better memories than debtors.

For age and want save what you may,
No morning's sun lasts the whole day.

Rather go to bed supperless than rise in debt. If you do not hear reason, she will surely rap your knuckles. He that hath a trade hath an estate; and he that hath a calling hath a place of profit and honor. A ploughman on his legs is higher than a gentleman on his knees.

ECONOMICAL WAY TO FATTEN HOGS.

I have thrown by my steamer for hog food and substituted a boiler, and I think with manifest advantage. The former consisted of a 60 gallon cask, over a potash kettle, badly set. I could only work off four or five casks a day, with great labor and trouble, and the apparatus required to be luted with clay at every operation. With my new kettle, holding 30 gallons, which is a thin beautiful casting, I have cooked eight and nine barrels in half a day, and much better than by the steam process. This food consists of small refuse potatoes, of which I have nearly 100 bushels, or 15 per cent. of my whole crop, pumpkins, and a small quantity of Indian meal. A half day's boiling serves my hog family four or five days; and it is always kept prepared in advance. The actual expense of fattening hogs thus upon the refuse of the farm crop, is 50 to 75 per cent. less than feeding with dry corn.

The economy of my apparatus consists much in setting the boiler so as to have all the advantage of the fire. The interior brick work is made to conform to the shape of the boiler, leaving an interval of four to six inches between them for the fire, round the whole exterior of

the kettle, with the exception of a few inches at top, where the flange or rim rests upon the projecting brick. Thus the boiler is not only encompassed by the flame, but the heat is augmented by radiation from the brick work. The fuel is burnt on a grate, which extends nearly to the kettle, four or five inches above the level of its bottom. My boiler being in operation while I am penning these remarks, I have ascertained that a kettle of potatoes, with three pails of cold water, covered with boards, has been completely boiled in 18 minutes from the time they were put in, another boiling having been just previously taken out. My kettle was set by a son in his teens, without assistance, and was his first effort in masonry.

J. BUEL.

Albany Nursery, Oct. 20, 1831.

TO MAKE HAY ON THE MOST APPROVED PLAN.

The first thing to be considered about hay-making, is the time of cutting the grass. It should not be cut too early, or before it has got its growth, for this will cause it to shrink too much in drying. On the contrary, it should not stand too late, or till the seed be quite ripe. It is not only harder to cut, but the ripeness of the seed will cause it to shatter out while drying, which will be a considerable loss, as the seed is the most rich and nourishing part; and the soil will be the more exhausted by nourishing the seed till it come to maturity, and the next succeeding crop will be poorer. There never can be any advantage in mowing late, unless in thickening the grass roots, by scattering some of the seed, where they were before too thin. He that mows early has the advantage of longer days for drying his hay; and of shorter nights, when the dews are less detrimental to hay-making.

But the farmer who has many acres of the same kind of grass cannot always expect to cut the whole of it in exactly the right season. That he may approach as near to right as possible, he should cut the thickest grass first of all; especially if it be in danger of lodging, or so thick that the lowest leaves perish, or the

bottoms of the stalks turn yellow. The thinnest of his grass should be cut next, which is apt to be ripe soonest: and last of all the middling sized grass, or that which is on a medium between thick and thin.

Where a second crop is expected the same year, thick grass should be cut a little the earlier, that the roots may not be injured so much as to prevent their speedy recovery, by being closely covered too long by the first crop.

Some regard should be had to the weather, when the time of cutting is in contemplation. Those, especially, should regard it, who are able to call in as much assistance as they please in hay-making.

Grass, which has not been washed by rain for several days, has a kind of gum on it, which is known by its adhering to the scythe. This gum is thought to be a benefit to the hay; and the farmers are fond of mowing their grass when this gum appears, rather than just after the grass has been washed by rain.

As to the drying of hay, or the manner of making it, I know there are a variety of opinions. The right way is to do it in such a manner that as much of the sap as possible may be retained, and in the best state that is possible. In this I should think all would agree. All persons will allow that too much drying is hurtful. It is certainly a loss to rake it or stir it at all, when it is so dry that the leaves will crumble. And doubtless as much of the sap should be retained as is consistent with its being kept in good order for fodder, and for long keeping.

Some grasses will do well with less drying than is needful for others. The Rhode-Island bent, as it is called, or red-top grass, will do with less drying than some other grasses. It has been much practised to put up with so little dryness that it heats in the mow to so great a degree, as to make it turn brown like tobacco; and it is known that cattle will eat it well, and thrive on it. But the mow will certainly send out part of the virtue of the hay in steams. I cannot but think that all grasses should be so much dried, that the mows and stacks though they have a degree of heat, should not

emit any sensible steam; and I would not wish to have hay made brown by mow-burning. It surely does not appear to so good advantage at market.

Were it not for the labor and cost, a good way of hay-making would be, for the hay-makers to follow at the heels of the mowers, at least, as soon as the dew is off, and spread the swarths evenly; turn the grass about the middle of the same day; make it up into cocks before night; open the hay and turn it the next day; and so on till it be sufficiently dried, doubling the cocks if signs of rain appear. It will not commonly take more than two or three days to dry it, unless it be very green, or uncommonly thick and rank. A person who has but little hay to make, need not be much blamed, if he do it in this way; especially if the weather do not appear to be settled.

The practice of the best English, Flemish, and French farmers, is to expose the hay as little as possible to the sun. It is carried in dry, but it preserves its green color; and you see hay two or three years old in their market, of so bright a green color, that we would scarcely conceive it to be cured. Yet they are in the practice of preserving it for years, and value it more for its age. If such a course be best in climates so cool and cloudy, how much more important would it be under our scorching summer suns?

But if the weather be unsettled, or if showers be frequent, it may be better to spread grass well, as soon as it is mowed, stir it often, cock it the same day it is mowed, open it in the next fair day when the dew is off, let it sweat a little in cock, and house it as soon as it is dry enough. It will bear to be laid greener on a scaffold, than in a ground mow; and in a narrow mow greener than in a broad one. And that which is at least of all made, should be put upon a scaffold.

SIMPLE MEANS OF PURIFYING WATER.

It is not so generally known as it ought to be, that pounded alum possesses the property of purifying water. A large spoonful of pulverized alum, sprinkled into a

hogshead of water; (the water stirred round at the time,) will, after the lapse of a few hours, by precipitating to the bottom the impure particles, so purify it, that it will be found to possess nearly all the freshness and clearness of the finest spring water. A pailful, containing four gallons, may be purified with a single tea spoonful.

TO CHOOSE THE BEST AGRICULTURAL IMPLEMENTS.

The variety and excellence of agricultural implements is so great that the prudent farmer in regard to that, as well as in every other branch of his art, must study economy. He should not incur an unnecessary expense in buying them, nor in purchasing more than are essentially requisite, and can be profitably used. This maxim ought to be more especially attended to by young improvers, who are often tempted, under the specious idea of diminishing labour, and saving expense, to buy a superfluous quantity of implements, which they afterwards find are of little use. It is remarked by an intelligent author on matters of husbandry, that a great diversity of implements, causes disappointment, rather than satisfaction to the farmer.

In purchasing implements the following rules are to be observed:—they should be simple in their construction, both that their uses may be more easily understood, and that any common workman may be able to repair them, when they get out of order; the materials should be of a durable nature, that the labour may be less liable to interruption from their accidental failure; their form should be firm and compact, that they may not be injured by jolts and shaking; and that they may be the more safely worked by country labourers, who are but little accustomed to the use of delicate tools. In larger machines, symmetry, and lightness of shape, ought to be particularly attended to: for a heavy carriage, like a great horse, is worn out by its own weight, nearly as much as by what he carries. The wood should be cut up and placed in a position the best calculated to resist pressure; and mortices, so likely to weaken the wood, should, as much as possible, be avoided; at the same

time, implements should be made as light as is consistent with the strength that is necessary. The price should be such, that farmers in moderate circumstances can afford to buy them; yet for the sake of a low price, the judicious farmer will not purchase articles, either of a flimsy fabric, or a faulty form; and implements ought to be suited to the nature of the country, whether hilly or level, and more especially to the quality of the soil; for those which are calculated for light land, will not answer equally well in soils that are heavy and adhesive.

**A RECIPE TO PREVENT BOOTS AND SHOES FROM
TAKING WATER.**

Take Seneca oil and gum elastic; one ounce of the latter to be cut into thin shreds and dissolved in a pint of the former, and when dissolved, which will be in a few days, the boots are to be completely saturated or charged with the mixture. The manner of preparing the boot is as follows: Take a sponge, and rub the mixture in until the leather will absorb no more of it; the boots are then laid by for a day or two, when the process is repeated. The soles as well as the uppers are to be thus rubbed, and the operation is to be performed either before a fire or in the sun.

MISCELLANEOUS SHORT RECEIPTS.

Enjoyment is not found so much in luxurious as in simple dishes. Fried apples are better and more wholesome than expensive preserves.

Tortoise shell and horn combs last much longer for having oil rubbed into them once and a while.

A large stone, put into the middle of a barrel of meal, is a good thing to keep it cool.

Lamps will have a less disagreeable smell, if you dip your wick-yarn in strong hot vinegar, and dry it.

New-England rum, constantly used to wash the hair, keeps it very clean, and free from disease, and promotes its growth a great deal more than the Macassar oil. Brandy is very strengthening to the roots of the hair;

but it has a hot, drying tendency, which New-England rum has not.

Woollens should be washed in very hot suds, and not rinsed. Lukewarm water shrinks them.

Suet and lard keep better in tin than in earthen. Suet keeps good all the year round, if chopped and packed down in a stone jar, covered with molasses.

Legs of mutton are very good, cured in the same way as ham. Six pounds of salt, eight ounces of salt-petre, and five pints of molasses, will make pickle enough for one hundred weight. Small legs should be kept in pickle twelve or fifteen days; if large, four or five weeks are not too much. They should be hung up a day or two to dry before they are smoked.

A pailful of ley, with a piece of copperas half as big as a hen's egg boiled in it, will color a fine nankin color, which will never wash out. This is very useful for the linings of bed-quilts, comforters, &c.

THE WAY TO WEALTH.

The way to wealth, is as plain as the way to market. It depends chiefly on two words, *industry* and *frugality*; that is, waste neither *time* nor *money*, but make the best use of both.

He that would be rich with the least labour must have few wants: for he that has little, and wants less, is richer than he that has much and wants more. A tub was large enough for Diogenes, and a world too little for Alexander.

We are ruined, not by what we really want, but by what we think we want. Never go abroad in search of wants; if they be real wants, they will come in search of you. He that buys what he does not want, will soon want what he cannot buy.

METHOD OF PRESERVING TOMATOES.

The boiling required for the preservation of fruits, always changes their quality, and sometimes entirely alters their character; and it often happens, when the fruits are acid, as in the Tomato, that they imbibe in

the copper vessels, in which they are stewed to a certain consistence, metallic principles, which are injurious to health. This double consideration induces us to publish an excellent method for preserving the tomato, which does not alter the quality of this fruit, and does not require the action of heat.

A sufficient quantity of salt is dissolved in spring or river water to make it strong enough to bear an egg; select perfectly ripe tomatoes, and place them well, and without pressing them, in a stone or glazed earthen pot, which is to be filled with the brine; cover the pot with a deep plate in such a manner that it presses upon the fruit, and by this simple process tomatoes may be preserved more than a year without attention. Before cooking them they should be soaked in fresh water, for several hours.

TO LAY DOWN GRASS LANDS.

It is admitted on all hands that one of the most difficult parts of the farmer's duty is 'laying down' regularly and successfully grass lands. John H. Powel, an intelligent and experienced Farmer of Pennsylvania, says, that in this country there is not usually more than half the quantity of seed sown that should be to insure success—that from experience he has found that three half pecks of clover seed mixed with two bushels of orchard grass seed is in no instance too much to sow on an acre of land—that by putting in this quantity, by light harrowing and rolling of the ground, if the weather and soil be in a proper state, immediately after sowing, will secure its vegetating and improve the grass. Autumnal top dressing with long manure, may be profitably applied to protect young clover, particularly if it has been pastured. A double advantage is obtained by using abundant supplies of seed; the hay is finer, and of course more nutritious, and when the crop is taken off, the soil is less exhausted from the rays of a hot sun.

TO SELECT SEED CORN.

A farmer informs us that, having often read accounts of the crop of corn being increased by selecting seed

from stalks having two or more ears, he was induced to try the experiment. He has selected his seed corn in this way for three years past, and the result has exceeded his expectation. He states that it is not uncommon to find in his cornfield, 'stalks with three, four, five, and sometimes six ears, and three of them fair, full-grown, and fit for seed, and that too in hills containing four or five stalks.' He says, 'I think my crop has been increased several bushels this year by the experiment. I would suggest a mode of selecting seed to those who do not cut up the corn at the roots. When they are picking corn, and find a stalk with two or more ears, let them tie the husks together, and the ears will be easily known at husking.'

STOCK TO SELECT.

The word *stock*, in this country, is commonly used by farmers to express only live stock, or the beasts that are kept upon a farm. These should not be all of one kind, but such an assortment as is best adapted to the convenience and profit of the farmer. The stock should be adapted to the nature and circumstances of the farm.

Young stock, in general, is better than old. The more there are in a growing state, the greater is the profit. And very old cattle, when turned off to fat, do not answer so well as those which are but little past their prime, or full vigour. It costs more to fatten them, and the meat is not so valuable.

It is best to begin with a considerable variety of animals; that the farmer, by observing the profit he gets from each kind, may afterwards vary, as he finds to be best. For this cannot be determined, but by some experience: Because some animals prosper best on one farm, and some on another; some best under one manager, and some under another.

A variety indeed, for other reasons, is always best: One is, because almost every farm produces a variety of food, some of which will answer best for one animal, and some for another. Even in the same pasture, that

which one species of animals leave, another will feed upon.

Also, the stock should vary, in some proportion as the lands of a farm do. As some farms contain a large proportion of high and dry pasture grounds, the greater quantity of sheep should be kept. Where low meadow abounds, the kind of stock should be increased, which will do best on coarse water-grasses; which is well known to be neat cattle, that are young and growing. But if a farm yield a plenty of good sweet grass, it is the more suitable for a dairy farm, and the greater proportion of cows ought to be kept.

But on no farm should horses be multiplied beyond the number which are needed, or which can be employed to advantage. For they are great eaters, and require the best of the fodder and pasture. A small farmer can scarcely afford to keep one, unless he puts him to the draught.

Let a farm be what it will, it should never be overstocked. This is an error that too many farmers in this country are guilty of. Doubtless it arises from a covetous disposition; but they sadly miss their aim. Instead of gaining, they lose by it. A half starved stock can never be profitable.

A farm may be said with truth to be overstocked, when a greater number of animals are kept, than can be well fed with its produce, during the whole year. For it is a ruinous practice, to suffer a beast to pine away, and lose, in one part of the year, the flesh he gains in another. And when the farmer is constrained to purchase food for his stock, he too often affords them but a scanty allowance. Sometimes, it is not in his power to obtain it.

The starvation of cattle, or keeping them too short of food, not only prevents their being profitable to the owner, but teaches them to be disorderly, and to break through, or leap over fences; and many times to become absolutely ungovernable; so that they must either be killed, or sold off at a low price; in either of which cases, there is often much inconvenience and loss.

It is far better that some of the stock of food should be left in the spring, than that it should fall short. It is a good reserve against a season of scarcity: And such seasons often happen in this country by drought.

The following general rules, as to the management of stock may deserve attention.

“1. Animals intended for the butcher, should be kept in a state of regular improvement. The finer breeds are highly fed from their birth, and are almost always fat. With other breeds, and on pastures of inferior quality, this is neither necessary nor practicable. But in every case the same principle of improvement should be adhered to, and such animals ought never to be allowed to lose flesh, in the hopes of afterwards restoring it by better feeding.

“2. The size should never be above that which the pasture can support in a thriving condition. The attempt to raise them to an undue size, by crossing, is censurable. In regard to size, the stock of every kind, and of all the various breeds, should be proportioned to the quantity, and the quality of their intended food.

“3. The best pasture should be allotted to that portion of the stock, which goes first to market; the next in quality to the breeders; and the coarse pasture, to the inferior or growing stock.

“4. Great care should be taken, not to overstock pasture, which is attended with great loss to the farmer, and the community. This ought to be particularly avoided in young and growing animals. If they are kept poor during one part of the year, they will scarcely thrive during the remainder; and whenever ill fed, will never attain to their proper size and proportion.

“Lastly, the food, whatever it may be, should not be too suddenly changed. It is seldom profitable to bring lean animals immediately from coarse to rich pastures; and a change from dry, to succulent food, and *vice versa*, should be gradually effected. A change of pasture, however, of the same quality, tends to produce a greater accumulation of fat.

The following observations relative to the size and form of stock are by Henry Cline, Esq. an English Sur-

geon. They have met the approbation of the most eminent agriculturists both in America and Great Britain.

“It has been generally understood that the breed of animals is improved by crossing with the largest males. This opinion has done much mischief, and would have done more if it had not been counteracted by the desire of selecting animals of the best forms and proportions, which are rarely to be met with in those of the largest size. Experience has proved that crossing has only succeeded in an eminent degree in those instances in which the females were larger than in the usual proportion of the females to the males; and that it has generally failed when the males were disproportionally large.

The external form of domestic animals has been much studied, and the proportions are well ascertained. But the external form is an indication of the internal structure. The principles of improving it must therefore be found on a knowledge of the internal parts.

Of these the lungs are of the first importance. It is on their size and soundness that the strength and health of an animal principally depend. The power of converting food is in proportion to their size. *An animal with large lungs is capable of converting a given quantity of food into more nourishment than one with smaller lungs; and therefore has a greater aptitude to fatten.*

“*Chest.* The size and form of the chest indicate the size of the lungs, of which the form should approach to the figure of a cone having the apex situated between the shoulders, and its base towards the loins; a circular form of chest is preferable to one deep and narrow; for though the latter may have greater girth, the former will have greater internal space in proportion.

“*Head.* The head should be small, by which the birth is facilitated to the offspring, it also indicates the animal to be of a good breed, and occasions less weight of unprofitable substance to the consumer.

“Horns are useless to domestic animals, and occasion a great weight of bone in the head. The skull of a ram with horns weighed five times as much as that of one without horns, each being four years old. A mode of

breeding, which would prevent the production of horns, would therefore afford a considerable saving.

“The length of the neck should be proportioned to the height of the animal, that it may collect its food with ease.

“*Muscles.* The muscles and tendons, which are their appendages, should be large, by which an animal is enabled to travel with greater facility.

“*Bones.* The strength of an animal does not depend on the size of the bones, but on that of the muscles; many animals with large bones are weak, their muscles being small. Animals imperfectly nourished during growth have their bones disproportionally large. If this originates from a constitutional defect, they remain weak during life; large bones may therefore indicate an imperfection in the organs of nutrition.”

Of the improvement of form. The chief point to be attended to for the improvement of form, from Mr. Cline’s principles, is the selection of males for breed of a proportionally smaller size than the females, both being of approved forms; the size of the fœtus depends on the size of the female, and therefore when the female is disproportionally small, her offspring has all the disproportion of a starveling from want of due nourishment.

The larger female has also a greater supply of milk, and her offspring is therefore more abundantly provided with nourishment after birth.

When the female is large in proportion to the male, the lungs of the offspring will also be greater. By crossing in this manner, there are produced animals with remarkably large chests, as has been often noticed; the advantage of large lungs has been already pointed out.

In animals where activity is required, this practice should not be extended so far as in those which are intended for the food of man.

The size of animals is commonly adapted to the soil which they inhabit; when the produce is scanty, the breed is small; the large sheep of Lincolnshire would starve, where the small sheep of Wales find abundant food.

Crossing may be attended with bad effects, even when begun on good principles, if the above rule be attended to throughout; for instance, if large ewes were brought to Wales, and sent to the rams of the country, the offspring would be of improved form; and if sufficiently fed, of a larger size than the native animals, but the males of the breed would be disproportionately large to the native ewes, and therefore would produce a starveling ill formed race with them.

The general mistake in crossing has arisen from an attempt to increase the size of the native race of animals; being a fruitless effort to counteract the laws of nature; which from theory, from practice, and extensive observation, Mr. Cline, concluded to be decidedly wrong; for in proportion to this unnatural increase of size, they become worse in form, less hardy, and more liable to disease.

The Massachusetts Agricultural Repository, vol. vi. p. 78, contains some valuable remarks on the subject of "Dairy Stock," by S. W. Pomeroy, Esq. We shall give the following extract, which presents an important fact, not sufficiently known or attended to by writers who have treated on the same or similar subjects.

"In the selection of bulls, most farmers confine their attention to form and colour only, instead of tracing their descent to a valuable dairy stock. It has been observed by Linnæus that those properties of animals which relate to the vessels, or in scientific terms, the *cortical substance*, or *vascular system*, are derived from the *males*," and among other examples tending to confirm this opinion, he states "that a cross from the male Angora goat, with the common female goat produces that fine wool or substance, called Camel's hair; but that the progeny from the male common goat with the female Angora, is productive of nothing but the same worthless hair of the sire."

TO SELECT GOOD LAND FOR FARMING.

The remark will, at first view, strike most persons as a kind of contradiction in terms, that the very richest land is not that on which Farmers have the best success,

and yet nothing is more certain. The first quality of land, is generally considered to be river alluvion: next to this, the richest upland, such as a fat and tenacious loam; then a sandy loam, or sand and clay; and finally a dry gravel. Of all these descriptions of soil, 1st, 2d, 3d, and 4th, the last is that on which we generally find the best farmers, not only, but the most successful farming. I have traversed most parts of the United States, from Maine to North Carolina, and between the great western Lakes and the Atlantic, and have every where seen proof of the correctness of these remarks. The first choice of land, in the settlement of every new country, taking the qualities as designated above, is always in the numerical order, as they stand; and the 4th, after some 20 to 50 years, always becomes, except in some very rare cases of river alluvion, the first, and the whole order is reversed! There may be particular exceptions, but as a general remark, the above observations will be found, on the strictest examination, to be sanctioned by general facts. Such was the case, in the early history of the settlement of this continent, such it has been, in every part of the country, and such it still is, as settlements advance, every where. One generation succeeds another, the second invariably adopting different views from the first, if continuing to reside on the same land; and yet all others, all of those who are uninstructed by personal experience and observation, or very nearly all, advance to the wilds with the old fashioned errors of opinion! Were we to omit taking into consideration the grounds of this mistake, the general perseverance in it, would seem to imply a strange want of prudent foresight, or even a want of common understanding.—Let us examine this matter a little, for it is one of very general importance.

Lands in a state of nature, wild lands, to which so large a proportion of the young men resort for future farms, if clothed with timber, forest trees, present very delusive appearances, such, exactly, as would be likely to mislead the judgment. Excepting only the river alluvion, universally sought as of the first quality, almost without looking at the soil, the three other qualities are

found, the second and third, covered with a thick deposit of vegetable matter, leaves, partly decayed, '*soft as an under bed,*' '*black as my shoe.*'—Such is the surface. On tearing up some handfuls of the ground, this is well blackened of course, and little is thought of looking for the sub-soil, as those invariably do, who have once been deceived by black muck, and these soft beds of leaves. Brooks are plenty, in such woods, though they will be scarce, on the same land, when opened to the sun, and the blankets and bed of leaves are removed so as to dry the surface of the ground.

On the 4th quality of land, the dry and warm gravel, there is none of this great store of slowly rotting leaves, because they rot rapidly, and fires often burn them up, the land being dry; and brooks, and springs, are even more scarce than they will be when the woods are destroyed. The ground, having its surface uncovered, and the woods generally more open, presents an appearance of nakedness, especially after having passed over black muck lands, shrouded in leaves.—With no allowance for the far greater frequency of fires, to burn off the leaves, and to destroy much of the growth of wood, keeping the woods more open, *this* land is condemned, for barrenness, and the land of *muck* is chosen, all blanketed and carpeted with leaves. We may, on reading this, admitting it to be a true and faithful outline or delineation, all agree that we would act more wisely, and yet 99 in a hundred of us, uninstructed by experience, would probably choose the carpeted land, as 99 in a hundred have done before, in all parts of the United States. I would not, and did not, but my father did, much to his regret, and I had the benefit of his experience, as well as my own, having been born and bred on one of those carpeted farms.

Land, that is cold and wet, may bear immense growths of trees, as of the elm, ash, basswood, birch, beech, maple and hemlock; and having a very thick shade, the ground will be cold, and wet, and the leaves must, of course, decay very slowly. Hence the carpeting, which is, invariably, a sure indication of either cold, or wet land, or of both. If of both, it never will make

a farm for grain; and grass, for pasture, and for hay, which grows on such land, is always very inferior in richness, to that grown on land that is warm and dry. The difference is very great. The most nutritious grass, grows only where the land is so dry, and warm, that it must be sown frequently with seed, in order to keep up the sward. This is what I call a *medium soil*, good, alike for grass and grain, on which I should no more expect crops of grass, except from seed, than of grain. One acre of such ground, in pasture, or meadow, will keep as much stock as one and a half, or even two, or three, of your black muck cold and wet grass land. The appearance, to be sure, in pasture, will be very different. The grass may be very long, in your wet, cold land pasture, but yet very poor feed: in the other, it will be far more nutritious, short and sweet, like a well told story.

With land that is dry and warm, the good husbandman, may always succeed in getting good crops. He may even make the soil as fertile as that of the very richest of land, and far more sure in its crops. Good husbandry, constantly enriches the soil. But it is almost impossible to do this, with land naturally cold, and wet. It has not warmth enough of temperament, to be sensitive to kind treatment, but is like some men, so phlegmatic, as to offer no principle of life to act upon. Heat, and cold, are always antipodes. You can never, by the utmost kindness, overcome natural antipathies. The very cause of the muck, which misleads so many in the choice of lands, is a natural coldness in the soil, where leaves are *preserved from decay*, by cold, and by wet, not moisture, but an excess of wetness. Such lands, when cleared, will produce grain crops, while the muck lasts, and is rotting by the power of the sun, but is sterile, ever afterwards, unless covered with a new soil, made artificially, and at more expense than the cost of warm and good land. This can be effected by trench-ploughing, under-draining, quick-lime as a manure, bringing up the hard-pan, almost always the only sub-soil of mucky lands, but the cost is too great for any thing but experiment, and on a small scale.

FARMERS' ACCOUNTS.

A celebrated agricultural writer says, 'There is not a single step in the life of a farmer that does not prove the advantage of his keeping regular accounts;' and yet there are very few who attend to this important branch of rural economy.

A few rough memoranda, often scrawled with chalk over the fire-place, or behind the door, are too often the only records which a farmer makes of his dealings either by way of barter or ready money; and he knows as little about his circumstances, and the amount of what he would be worth provided his debts were paid, as he does about the Chinese language, or the most approved method of calculating eclipses.

The advantages resulting from clear and accurate accounts are properly appreciated in other pursuits in life, but it is doubtful whether they are greater in any occupation than in that of farming. Sir John Sinclair has given some maxims on this subject, which are in substance as follows:

GENERAL ACCOUNT OF STOCK.

Every farmer, who desires to know correctly to what profit he does business, should provide himself with a book, which he may call his *General Stock Book*, and in this, some time in December, he should register the result of a general survey of the condition and worth of his whole property, including all his debts and credits. Having such a book to refer to at all times and on all occasions will afford much satisfaction to his mind. In the first place he should order in all his tradesmen's bills, and in the mean time he may take an examination and account of all his household goods, horses, cattle, poultry, corn, grain, in straw or threshed, hay or other fodder, wood, manure, wagons, carts, ploughs, and implements of all kinds—the state of his fences, gates,

drains, &c., and make an estimate of the necessary repairs. Minutes being made on waste paper, the particulars may be afterwards entered into the Stock Book, with such a degree of minuteness as may be judged necessary. After this general register, a Dr. and Cr. account may be drawn out, the balance of which will exactly show the present worth of the estate.

The form of the account may be as follows:

Stock Dr.

Contra Cr.

On the Dr. side should be entered all the farmer owes, and on the Cr. side all he possesses and all that is owing to him. He must rate every thing at what he judges the fair present worth, was it then sold; manure and tillage performed must be valued at the common rate of the country.

If a farmer wishes to be very correct in his calculations of the profit and loss of a lot of stalled oxen for instance, or the crop of a particular field, his readiest method is to make an account for either one or the other in his ledger of Dr. and Cr. On the Dr. side let him place the cost, including every minute particular, and on the Cr. side the returns. On the sale of the articles, the account is closed, and the balance demonstrates the profit and loss.

PROMISSORY NOTES.

WITHOUT INTEREST.

\$100 00

Cincinnati, March 1st, 1831.

Sixty days after date I promise to pay John Sharp or order, One hundred dollars.

Value received.

WILLIAM DOE.

WITH INTEREST.

\$1,500 00

Cincinnati, April 6th, 1831.

Ninety days after date for value received, I promise to pay John Sharp or bearer, One thousand five hundred dollars, with interest from this date.

JOHN DOE.

PAYABLE TO THE PERSON TO WHOM THE NOTE IS
GIVEN, AND NO OTHER.

\$570 50

Lexington, May 1st, 1831.

Thirty days after date I promise to pay to Jeremiah
Hanks Five hundred and seventy dollars and fifty cents.
Value received.

PETER H. SHARP.

ON DEMAND.

\$50 00

Indianapolis, July 10th, 1831.

On demand I promise to pay to the order of Richard
Doe Fifty dollars. Value received.

JONATHAN HOPKINS.

ANOTHER ON DEMAND.

\$25 25

Cincinnati, June 1st, 1831.

On demand I promise to pay John Doe or order,
Twenty-five dollars and twenty-five cents. Value
received.

RICHARD DOE.

ANOTHER ON SIGHT.

\$20 00

Louisville, January 1st, 1831.

Good, at sight, for Twenty dollars. Value received.

JOSEPH DON.

NOTE PAYABLE IN INSTALMENTS.

\$400 00

Madison, April 4th, 1831.

For value received I promise to pay Jonathan James
or order, Four hundred dollars, in the following in-
stalments, namely, one hundred dollars on the first day
of May next, and the further sum of one hundred dol-
lars on the tenth of July next, and the remaining sum
of two hundred dollars on the first day of January,
eighteen hundred and thirty-two, with lawful interest
from the payment of the first instalment herein named.

WILLIAM CASH.

NOTE GIVEN BY TWO OR MORE.

\$300 00*Connersville, May 1st, 1831.*

We jointly and severally promise to pay Daniel Blank Jr. or order, on the third of December next, three hundred dollars for value received.

JOHN J. PHILLIPS.

BENJAMIN OGLETHORP.

A NOTE PAYABLE IN PRODUCE.

\$30 00*Jamestown, April 1st, 1831.*

Thirty days after date, for value received, I promise to pay James Hodges Jr. or order, the value of thirty dollars, in merchantable wheat, at the market price at the time this becomes due.

JOHN PETERS, *Senior.*

ANOTHER.

\$300 00*Jamestown, April 1st, 1831.*

For value received I promise to pay Hugh Fisk or order, an equivalent to the sum of three hundred dollars, payable in the following manner, namely: The value of one hundred dollars on the first of May next, in (*here name the said kinds of stock or produce.*) The further sum of two hundred dollars on the tenth of June next, in (*here name the articles, &c. particularly.*) All of which articles, goods or chattels are to be in good merchantable order, and valued at the market price at the several periods in which they become due.

THOMAS FLIM, *Jr.*

JUDGMENT NOTE.

I promise to pay William Dunallen Jr. of the City of Cincinnati, merchant, or order, five hundred dollars with lawful interest, on the first day of June ensuing, for value received. And further, I do hereby empower any attorney of any of the courts of the City of Cincinnati, or of any other court of record of Ohio, to

confess judgment for the above sum and costs with release of errors, &c. Witness my hand, this first day of May, A. D. one thousand eight hundred and thirty.

JOHN I. WORTHY

In presence of A. B.
 C. D.

BILLS.

BILL OF EXCHANGE.

\$500 00

Cincinnati, June 1st, 1831.

Ten days after sight, pay to the order of John J. Mills five hundred dollars, value received, without further advice, which charge to the account of

DAVID READYMONEY.

Messrs. Floyd, Jones, & Co.

A PENAL BILL.

This bill bindeth me Andrew Brownson of _____ in the sum of fifty dollars to be paid unto John Y. Yates, his certain attorney, executors, administrators, or assigns, on or before the _____ day of _____ which will be in the year _____ together with lawful interest for the same: For the true payment whereof, I do bind myself, my heirs, executors, and administrators, and each of them unto the said John Y. Yates, his executors, administrators, and assigns in the penal sum of eight hundred dollars. In witness &c.

A. B. C.

A MERCANTILE BILL.

Israel Thompson,

To H. L. Barnum, Dr.

For three hundred bushels of wheat, at one dollar per bushel, \$300 00

One cow, at thirty dollars, 30 00

Three tons of hay, at ten dollars per ton, 30 00

Payment received. \$360 00

Cincinnati, May 1st, 1831.

PHILO JONES, for
H. L. BARNUM.

RECEIPTS.

Received, this first day of May, A. D. 1831, from Frederick Pay, thirty dollars, being in full for one cow, sold by me, to the said Frederick Pay.

\$30 00

CHARLES P. BRAIR.

Cincinnati, May 20th, 1831.

Received, this day, of Peter Paymaster, one hundred dollars, being in full of all demands.

\$100 00

CHARLES ROBINSON.

MONEY RECEIVED BY THE HAND OF A THIRD PERSON.

Received, the twentieth day of September, A. D. 1831, from Henry Hobbs, by the hand of Morris Billings, the sum of two hundred dollars, in full for sundry articles of produce, bought by the said Henry Hobbs from me.

\$200 00

AMOS B. PHELPS.

RECEIPT FOR A PROMISSORY NOTE.

Received, Versailles, May first, A. D. 1831, from Richard Doe, his promissory note, payable to me or order, three months after date, for five hundred dollars, due to me for certain produce, bought from me, by the said Richard Doe, which, when paid, will be in full of all demands.

Note of \$500 00

H. BROWN.

FOR AN ORDER DRAWN UPON A THIRD PERSON.

Received, the ——— day of, &c. from D. Doe, an order, drawn in my favor upon Conrad Hughes, Jr. for the sum of ——— upon sight, which, when paid, will be in full of all demands I have against the said D. Doe.

SAMUEL HARRISON.

A SHORT BUSINESS ORDER.

MR. JOHN JAMES,

Please pay H. L. Barrows five dollars, and charge the same to my account.

PHILIP HAYS.

RECEIPT FOR PROPERTY LEFT ON SALE.

Received, this first day of June, A. D. 1831, from James Johnson, one bay horse, (*or any other article, as the case may be,*) which I am to sell for ——— (*here mention the terms*) and duly account to the said James Johnson for the same.

JAMES PETERS, Jr.

AGREEMENT BETWEEN A MASTER AND OVERSEER OR LABORER, ABOUT THE MANAGEMENT OF A FARM.

Article of agreement, between Adam Painter of, &c. of the one part, and John Stewart of, &c. of the other part, as follows, viz:—

Whereas, the said Adam Painter hath agreed with and hired the said John Stewart, to be his overseer or laborer (as the case may be) for the well ordering, improving, and managing, for the best and most profit and advantage of the said Adam, in good husband-like manner as herein after mentioned, all that farm or tenement, barns, stables, out-houses, lands, meadows, and pasture-ground, with the appurtenances thereunto belonging, now in the tenure or occupancy of the said Adam, situated in Blockley, and commonly called or known by the name of Painter's Grange, for the term

of one year from the first day of April next coming, after the date thereof, and so from year to year afterwards, for and during the term of three years more, if he the said Adam Painter shall think fit to retain the said John Stewart, in his said service, and not otherwise, at and for the yearly salary or wages of three hundred dollars, payable quarterly as herein after mentioned: Now it is thereupon covenanted, agreed, and concluded, by and between the said parties to these presents, for themselves, their executors, administrators, and assigns, in manner and form following, that is to say: the said John Stewart, for himself, his, &c. doth covenant, &c. to and with the said Adam Painter, his, &c. by, &c. that the said John shall and will, with the assistance herein after covenanted to be afforded to him by the said Adam, in a good husband-like manner, and at seasonable times, in the year, from time to time during so long as he shall continue in the said service of the said Adam, well and sufficiently plough and keep in tillage the number of one hundred acres, little more or less, parcel of the farm aforesaid, every year, yearly, and shall and will leave ——— acres thereof, to be laid fallow every other year, and plough the same ——— acres three times before it be sown again; and shall sow or plant the remaining ——— acres at seasonable times, in the year, with such corn and seed as the said Adam, his executors, or assigns, shall from time to time direct and appoint; and the same so sown or planted shall, in good husband-like manner, harrow or plough: And that he, the said John Stewart, with the workmen to be furnished him by the said Adam Painter, shall, from time to time, during the term of four years, or so long thereof as he shall remain in the said service of the said Adam, at seasonable times in the year, in a good husband-like manner, gather, husk, and crib, all the corn, and reap, cut down, and shock, all the grain that shall stand, grow, or be in or upon the said farm, or any part thereof, and do all other things that shall be convenient for making the same fit to be housed, and then shall fetch in and lay up the same in the barn belonging to the farm: And also, well and sufficiently

repair, maintain, keep and amend, the fences and enclosures of or belonging to the said farm and premises, in, by, and with, all needful and necessary repairs, and amendments during the said term: And shall and will manure all the meadows of the said farm from the first day of April to the twenty-first day of June, or so much longer every year during so long of the said term of three years as he shall continue in the said service of the said Adam, his executors, or assigns, as shall be convenient for hay: And shall and will also, at seasonable times in the year, yearly, during the said term, in good and husband-like manner, mow all the said meadows, and in like manner make up all the hay, and carry it from the said meadow to the yard belonging to the said farm, and there lay it up in a stack or stacks: And shall and will lay all the dung, soil, and compost, that shall be made in or about the yard and out-houses belonging to the said farm, and such other dung and soil as the said Adam shall buy or provide for that purpose, to and upon such part of the lands and grounds of the said farm as the said Adam, or his executors or assigns, shall from time to time direct and appoint; and at seasonable times in the year shall there spread the same: In consideration of all which premises, he, the said Adam Painter, for himself, his executors, administrators, and assigns, doth covenant, grant, and agree, to and with the said John Stewart, his executors and assigns, by these presents, in manner and form following, that is to say: that he the said Adam Painter, his executors, administrators, or assigns, shall and will well and truly pay, or cause to be paid, unto the said John Stewart, the said yearly wages or salary of three hundred dollars, during so long of the aforesaid term of four years, as he the said John shall continue in the said service and employment of the said Adam, on the four quarterly days, that is to say, on the first days of April, July, October, and January, in equal portions, and shall, during the same time, allow him to occupy, with his family, the following premises, viz. ———; and shall, moreover, furnish him with workmen of the following descriptions, viz. ———, to be under his control and

direction for the purposes herein before particularly mentioned. In witness whereof, &c.

ARTICLES OF AGREEMENT FOR THE SALE OF LAND.

Articles of Agreement, made and concluded the first day of July, in the year of our Lord, one thousand eight hundred and twenty-eight, between A. B. of —— in Hartford County, and state of Maryland, hatter, of the one part, and C. D. of the same place, merchant, of the other part, as follows, to wit:

The said A. B., for the consideration herein after mentioned, doth, for himself, his heirs, executors, and administrators, covenant, promise, grant, and agree, to and with the said C. D., his heirs and assigns, by these presents, that he, the said A. B., shall and will, on or before the tenth day of May next ensuing the date hereof, at the proper cost and charges of the said A. B., his heirs and assigns, by good and lawful deed or deeds, well and sufficiently grant, convey, and assure, unto the said C. D., his heirs and assigns, in fee simple, clear of all incumbrances, all that messuage, &c. [Here describe the property.]

In consideration whereof, the said C. D., for himself, his heirs, executors, and administrators, doth covenant, promise, and agree, to and with the said A. B., his heirs and assigns, by these presents, that he, the said C. D., his heirs, executors, and administrators, or some of them, shall and will, on the execution and delivery of the said deed as aforesaid, well and truly pay, or cause to be paid, unto the said A. B., his executors, administrators, or assigns, the sum of two thousand dollars, in manner following, to wit: one thousand dollars, part thereof, on the delivery of the deed for the premises, as aforesaid, and the residue thereof, in two equal yearly payments thereafter, all without interest, for which the said C. D. shall give to the aforesaid A. B. bonds with sufficient security for the payment of the same, if required. And upon his, the said C. D., executing and delivering the bonds aforesaid, the said A. B. shall give unto the said C. D. possession of the premises.

And for the true performance of all and every the covenants and agreements aforesaid, each of the said parties bindeth himself, his heirs, executors, and administrators, unto the other, his executors, administrators, and assigns, in the penal sum of four thousand dollars, lawful money of the United States, firmly by these presents. In witness whereof, the said parties to these presents, have hereunto set their hands and seals. Dated the day and year first above written.

Sealed and delivered }
in the presence of }

FOR LETTING A HOUSE, &c.

Agreed, the —— day of ——, between John Barnes, of, &c., of the one part, and James Pugh, of, &c., of the other part, as followeth, viz.

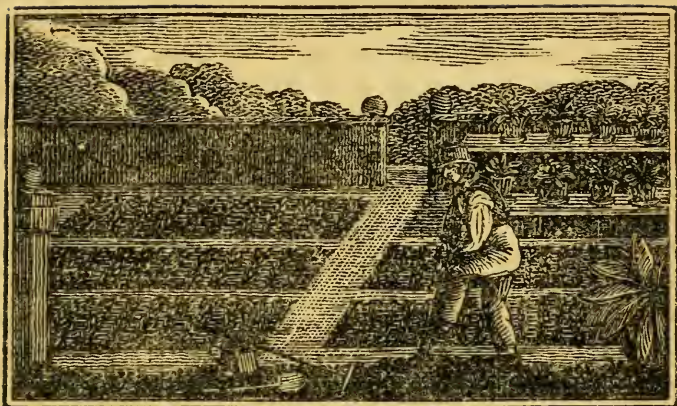
The said John Barnes doth let unto the said James Pugh, and the said James agrees to take all that, &c. for one year, from the first day of January next, and for such longer time after the expiration of the said one year, as both the said parties shall agree, and until the end of three months after notice shall be given by either of the said parties to the other of them for leaving the said premises, at and for the yearly rent of —— dollars, to be paid quarterly on the first Mondays in April, July, October, and January, by even and equal portions, which said yearly rent the said James Pugh doth hereby, for himself, his executors, and administrators, covenant and agree to pay to the said John Barnes [if freehold say] and his heirs, [but if otherwise say] executors, administrators, and assigns, accordingly, for so long time as he shall hold and enjoy the said premises as aforesaid, and until the end of the said three months next after notice shall be given by either of the said parties, to the other of them, for leaving the said premises as aforesaid. In witness, &c.

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GARDENING.



“Gardening is both a science and an art. It embraces the knowledge and use of all the aliments of the vegetable kingdom, that serve, or may serve the wants, as well as the pleasures of mankind.”

Hence a good garden is very essential to every farmer. It is conducive to health, comfort and profit.

TO CHOOSE THE SOIL FOR A KITCHEN GARDEN.

It is found that a light sandy loam is the best soil for a kitchen garden. This may be formed where the predominant soil is either clay, peat, or sand. A free marl is likewise well calculated for garden culture.—The addition of a moderate quantity of clay with the oxide of iron, is of much use in promoting fertility.

It is fortunate, however, when a garden contains a variety of soils; as some vegetables require a dry, others a wet earth; some thrive best in a strong heavy soil, and others in a light sandy one, and I cannot point out any one species of land that will suit all vegetables; therefore the soil most congenial to the different plants, will be described under their respective heads hereafter.

PREPARATION OF THE SOIL.

Preparing the soil and trenching it to a proper depth, is not always sufficiently attended to in gardening.—The soil ought to be from one foot and a half to two feet and a half deep, particularly where tap-rooted vegetables are cultivated. The roots can thus with greater facility extend their fibres in all directions, in search of vegetable nourishment, and a reservoir is provided for any superabundant moisture which may be occasioned by heavy rains, where it is retained till it is wanted.—Where the ground is wet, draining is indispensable.

Soils may be rendered more fit for answering the purposes of vegetation (especially in gardening) by pulverization; by consolidation; by exposure to the atmosphere; by alteration of their constituent parts; by changing their condition in respect to water; and by a change in the kinds of plants cultivated. All these improvements are independent of the application of manure.

TO PREPARE HOT BEDS.

Hot beds are things not merely of luxury, but of real utility, especially to farmers and gardeners who send their productions to market. Plants which are brought to maturity in the open air, may often be rendered fit for the table a month earlier in consequence of being sown and forwarded during the earlier stages of their existence in hot beds. The following is given in the *New-England Farmer*, as a good method of preparing hot beds.

In the month of March, mark out your bed to the size of the frame you design to cover it, which is generally six feet in length and three in breadth, covered with glass, set in sashes of twelve panes each, say of 7 by 9 glass. The sashes should be hung with hinges upon the back side, to admit their being raised up or let down in front at pleasure. The front side of the sashes to incline downwards from the back side, about six inches. The frame, or box, is tight upon all four of

its sides, and generally about twelve inches high in front, and eighteen inches on the back side.

Dig your bed thus marked off, and cover it with litter from the horse stable—stamp down your several layers, until your bed is raised to the height you wish—then cover the bed with a layer of rich earth from 6 to 12 inches thick, and set on your frame; in 8 or 10 days it will generally be ready for planting, if the weather is mild. If the fermentation is too powerful, and the heat too active, give it air by raising the lights in your frame, until you have obtained a right temperature—which you may observe by placing your hand upon the bed, or thrusting it into it.) You may then plant your early cucumbers, radishes, salads, &c.—those plants will soon come forward, and may be transplanted into other hot beds, not so powerful, or promiscuously into the garden, and covered with other small frames, of 1, 2, and 4 panes of glass, according to circumstances, and the remainder may stand for use. These plants may be generally brought to perfection about one month earlier than in open ground.

TO MAKE COMPOSTS FOR PLANTS.

These may be reduced to light sandy loam from old pastures. Strong loam approaching nearly to brick earth, from the same source. Peat earth from the surface of heaths or commons. Bog earth, from bogs or morasses. Vegetable earth, from the decayed leaves, stalks, cow dung, &c. Sand earth, sea sand, drift sand, or powdered stone, so as to be as free as possible from iron, lime, rubbish, and, lastly, common garden earth; there are no known plants that will not grow or thrive in one or other of these earths, alone, or mixed with some other earth, or with rotten dung, or leaves.

TO SELECT GOOD GARDEN SEEDS, &c.

1. The *management* of a garden (summarily speaking) consists in *attention* and *application*; the first should be of that wary and provident kind, as not only to do well in the present, but for the future; and the latter should

be of that diligent nature as (willingly) *never to defer that till to-morrow which may be done to-day.*"

2. Procrastination is of serious consequence to gardening; and neglect of times and seasons will be fruitful of disappointment and complaint. It will often happen, indeed, that a gardener cannot do what he *would*; but if he does not do what he *can*, he will be most justly blamed, and perhaps censured by none more than by himself.

3. *Seed.* "Let your seed be such as you would have your future crop—the *best of the kind*. As the largest animals produce the most profitable stock, so it is in vegetables; the largest seed of the kind, plump and sound, is the best, being well ripened, and kept from injuries of weather and insects.

4. "Commonly speaking, *new seed* is to be preferred to old, as growing more luxuriantly, and coming up the surer and quicker. As to the *age* of seeds, at which they *may* be sown and germinate, it is uncertain, and depends much *how* they are preserved.

5. "Seeds of cucumbers, melons, gourds, &c. which have thick, horny coverings, and the oil of the seed of a cold nature, will continue good for ten, fifteen, or even twenty years, unless they are kept in a very warm place, which will exhaust the vegetable nutriment in a twelve month; [*three years for cucumbers, and four for melons*, is generally thought to be best, as they shoot less vigorously than new seeds, and become more fruitful.]

6. "Oily seeds whose coats, though they are not so hard and close as the former, yet abounding with oil of a warmer nature, will continue good three or four years, as radish, turnip, rape, mustard, &c. Seeds of umbelliferous plants, which are for the most part of a warm nature, lose their growing faculty in one, or at most two years, as parsley, carrots, parsneps, &c.

7. *Pease* and *beans* of two years old are by some preferred to new, as not likely to run to straw. Sowings should generally be performed on *fresh* dung or stirred ground. There is a *nutritious* moisture in fresh turned up soil, that softens the seed to swell and germinate quickly, and nourishes it with proper aliment to pro-

ceed in its growth with vigor, but which is evaporated soon after from the surface.

8. *Weeding*. "Weeding in time is a material thing in culture, and *stirring* the ground about plants, as also *earthing up* when necessary, must be attended to. Breaking the surface will keep the soil in health; for when it lies in a hard or bound state, enriching showers run off, and the salubrious air cannot enter. Weeds exhaust the strength of the ground, and if they are suffered to seed and sow themselves, may be truly called (as Mr. Evelyn speaks) *garden sins*. The *hand* and *hoe* are the instruments for the purpose.

9. "*Digging*, where the spade can go, between the rows of plants, is a good method of destroying weeds; and as it cuts off the straggling fibres of roots, they strike fresh in numerous new shoots, and are thus strengthened. Deep *hoeing* is a good practice, as it gives a degree of fertility to the earth.

10. "The *thinning* of seedling crops (such as are designed to produce seed) is a very necessary thing to be done in *time*, before the young plants have drawn one another up too much, by which they become weak and out of form, and sometimes never do well afterwards. All plants grow stronger, and ripen their juices better, when the air circulates freely round them, and the sun is not prevented from an immediate influence, an attention to which should be paid from the first appearance of plants breaking ground.

11. "In *thinning close* crops, as onions, carrots, turnips, &c. be sure they are not left too near; for instead of reaping a greater produce, there would surely be a less. When they stand too close, they will make tall and large tops, but are prevented swelling in their roots: better to err on the *wide* side, for though there are fewer plants they are finer.

12. "In *setting out plants*, be sure to do it as *early* as may be, and always allow room enough for this work; being thus treated, vegetables will come forward sooner, larger, and of a superior flavor. These advantages are seen in all things, but in *lettuces* particularly, which often have not half the room allowed them that they require.

13. "*Different sorts of plants, intended for the producing of seed, ought not to be suffered to flower together, a caution deserving of attention.*—In Ray's history of planting we have the following anecdote: One Richard Baal, a gardener at Brentford, sold a great quantity of cauliflower seed, which he raised in his own garden, to several gardeners in the suburbs of London, who carefully sowed the seed in good ground, but they produced nothing but the common long leaf cabbage; for which reason they complained they were imposed upon, and commenced suit against the aforesaid Baal, in Westminster hall.

14. "The judge's opinion was, that Baal must return the gardeners their money, and also make good their loss of time and crops. This cheat we ought not to lay to the poor gardener's charge, for it is wholly to be ascribed to his good plants being impregnated by the common cabbage.

15. Wherefore, if any one has an excellent cabbage, he ought not to let it flower on the same bed or beside any of an inferior sort, lest the good sort be impregnated with the dust (pollen, prepared in the male flower of plants) of the other, and the seeds produce a degenerate race."

16. *On the choice of seeds.* The way to try the goodness of seed, says Mr. Cobbett, is this, "Put a small quantity of it in *luke-warm* water, and let the water be four or five inches deep. A mug or basin will do, but a large glass tumbler is best, for then you can see the bottom as well as the top.

17. "Some seeds, such as those of cabbage, radish, and turnip, will, if good, go to the bottom at once. Cucumber, melon, lettuce, endive, and many others, require a few minutes. Parsnep and carrot, and all the *winged* seeds require to be washed by your fingers in a little water, and well *wetted*, before you put them into the glass; and the carrot should be *rubbed* so as to get off part of the *hairs*, which would otherwise act as the feathers do to a duck.

18. "The seed of the beet and mangel wurtzel are in a case or *shell*. The rough things that we sow are

not the *seeds*, but the cases in which the seeds are contained, each case containing from one to five seeds. Therefore, the trial by water is not conclusive as to these two seeds, though if the seed be very good, it will sink in water, after being in the glass an hour.

19. "And as it is a matter of such great importance that every seed should grow, where the plants stand so far apart; as gaps in roots of beets and mangel wurtzel are so very injurious, the best way is to reject all seeds that will not sink, case and all, after being put into warm water and remaining there an hour.

20. "But seeds of all sorts, are, sometimes, if not always, part sound and part unsound; and as the former are not to be rejected on account of the latter, the *proportion* of each should be ascertained, if a separation be not made. Count, then, a hundred seeds, taken promiscuously, and put them into water as before directed. If fifty sink and fifty swim, half your seed is bad and half is good; and so in proportion as to other numbers of sinkers and swimmers.

21. "There may be plants the sound seeds of which will not *sink*, but I *know* of none. If to be found in any instance, they would, I think, be found in those of the tulip tree, the ash, the birch and parsnep, all of which are furnished with a large portion of wing.—Yet all these if *sound*, will sink, if put into warm water, with the wet worked a little into the wings first. I incline to the opinion, that we should try seeds as our ancestors tried witches: not by fire, but by water; and that following up their practice we should reprobate and destroy all that do not *readily* sink.

TO GERMINATE SEEDS.

It is very important that many kinds of seeds should be rolled in by a heavy roller, or by pressing the earth hard upon them by placing a board on the bed, and walking across it several times. Celery, spinage, onions, and many other kinds of garden seeds, will not vegetate, unless the earth is pressed on them hard, or rolled after being sown.

Most vegetables thrive better to shift the ground alternately every year for different sorts, as each kind draws somewhat different nourishment, on the principle of rotation of crops. Onions, however, are generally considered an exception to the rule. [For particular directions to germinate, see 1st. vol. Farmers' Reporter.]

TO MAKE A KITCHEN GARDEN.

"Many persons, sensible of the utility, are often discouraged from constant attempts in cultivating a kitchen garden, because they have experienced some failures in particular plants. But there will never be a failure of vegetables enough for a family's use, if the following requisites be well guarded:—Richness of soil; due care in the selection of seeds, as already directed; proper cultivation; and a sufficient variety of vegetables, that if one kind fails, another may be a substitute.

"It is a general complaint among persons who pay only little attention to their garden, that the seed often fail. This usually happens because due care is not taken in discriminating between ripe and unripe seed; between blighted and sound seed, and by inattention to the necessary rules for germination.

"Our gardens *do not generally present variety enough* to be profitable and convenient to the owner, throughout the whole year, even if all the planting succeeds.—There is frequently no provision for the winter, and many a long month, when the vegetable kingdom is locked in frost, is passed with no variety on our tables, to excite the languid appetite, or satisfy that which is pleased with rotation. But surely it is as easy to store our cellars with the *beet*, the *carrot*, the *onion*, the *pars-nep*, and *vegetable oyster*, as with the dull monotony of the *potatoe*; and however nutritious the potatoe be, still its utility cannot be hostile to the claims of other productions of the garden.

"We do not invite the plough-boy from the utility of his farm, to the *pleasures* of a garden; we do not wish him to sacrifice his grain fields to the culture of a tulip bed; but we wish to call his attention to the *utility*,

convenience, and economy, that can be found in the cultivation of a substantial kitchen garden, from which his healthful family can draw many of those really innocent luxuries, which a bountiful Providence has, with so lavish a hand, spread around him."

When your fence is put in good order, select a proper place for the small kind of fruit shrubs, as gooseberries, currants, and raspberries; for although you admit no trees within this inclosure, these useful shrubs must have a place. They should not be planted around the fences, nor through the centre of the garden, as is too commonly the practice, but in a continued plantation, that they may have suitable attention, and yet not obstruct the plough.

Gooseberries require a deep and rich soil. The ground between the rows must be well manured, and kept free from weeds, and you should be careful to plant none but those that are of a good kind.

A good mode of propagating gooseberries, is by cuttings or layers. For cuttings, take shoots of the last year's growth, from shrubs that are known to bear a choice fruit. Let them be at least ten inches long; cut off all the buds, except three or four at the tops, and insert the stems six or eight inches into the earth; tread the ground firmly around, and keep them free from weeds. When they have grown here a year or two, they should be removed to the plantation as soon as the frost is out of the ground in the spring, or in the autumn, which is, particularly for the gooseberry, the best season.

Currants may be propagated in the same way. They are, however, more hardy, and do not require so rich a soil. They should be placed in rows, six or eight feet apart, and kept free from weeds. Between these rows, you may raise a crop of dwarf or bush beans, (take care that there are no runners, or vines among them,) without the least injury to the shrubs, for several years.

There is great choice in currants, as well as in other fruit; select only the large red and white currant, for no art will change the original nature of the fruit,

although, by skilful cultivation, the quality may be improved.

The gooseberry and currant both claim the farmer's attention, and are much wanted in every family. They furnish a cheap and early sauce, and the latter a wine equal to the best Lisbon or Teneriffe.

As you will doubtless wish to plant other trees, and be desirous to know the best season for that work, I would observe, as a general rule, that all kinds of trees or shrubs should be moved or set in the spring, as soon, at least, as the buds begin to swell. The apple tree, the cherry, and plum, will grow, if set with art, when the leaves begin to open, but not with health and vigor.

TO INCREASE THE NUMBER AND IMPROVE THE QUALITY OF PLANTS.

To accomplish this, it is necessary to facilitate their mode of nutrition, by removing all obstacles to the progress of the plant. These obstacles may either exist under or above the surface; and hence the origin of draining, clearing from the surface, incumbrances, and the various operations, as digging, ploughing, &c. for pulverising the soil. It is necessary, or at least advantageous to supply food artificially; and hence the origin and benefit of manuring. All organised matters are capable of being converted into the food of plants; but the best manure for ameliorating the quality, and yet retaining the peculiar chemical properties of plants, must necessarily be decayed plants of their own species.

It is true that plants do not differ greatly in their primary principles, and that a supply of any description of putrescent manure will cause all plants to thrive; but some plants, such as wheat and rye, contain peculiar substances as gluten and phosphate of lime, and some manures, as those of animals or decayed wheat and rye, containing the same substances, must necessarily be a better food or manure for such plants. *The regulation of moisture* demands attention; for when the soil is pulverised, it is more easily dried by the penetra-

tion of the air; where an increase of food is supplied, the medium through which that food is taken up by the plant should be increased; and when the temperature is increased, evaporation becomes greater.

Hence the advantage of watering by surface or subterraneous irrigation, manual supplies to the root, showering over the leaves, steaming the surrounding atmosphere, &c.

TO INCREASE THE NUMBER, AND IMPROVE THE QUALITY OF PARTS OF VEGETABLES.

It is necessary in this case, to remove such parts of the vegetable as are not wanted, as the blooms of bulbous or tuberous rooted plants, when the bulbs are to be increased, and the contrary. Hence the important operations of pruning, ringing, cutting off large roots, &c. It may be said that this is not nature, but art; man, though an improving animal is still in a state of nature, and all his practices in every stage of civilization are as natural to him, as those of the other animals are to them.

To form new varieties of vegetables, as well as of flowers and useful plants of every description, it is necessary to take advantage of their sexual differences; and to operate in a manner analagous to crossing the breed of animals. Hence the origin of new sorts of fruits, grains, and roots. New varieties or rather sub-varieties are formed by altering the habits of plants; by dwarfing through want of nourishment, variegating by arencious soils, &c.

TO PROPAGATE AND PRESERVE PLANTS FROM DEGENERACY.

In doing this, we should have recourse to the different modes of propagating by extension. Thus choice apples and tree fruits could not be perpetuated by sowing their seed, which experience has shown, would produce progeny more or less different from the parent, but they are preserved and multiplied by grafting; others such as the pine apple, by cuttings or suckers; choice carnations by layers; potatoes by cuttings of the tubers, &c. But approved varieties of vegetables are in general,

multiplied and preserved by selecting seeds from the finest specimens and paying suitable attention to their culture.

TO PRESERVE VEGETABLES FOR FUTURE USE.

This is effected by destroying or rendering dormant the principle of life, and by warding off as far as practicable the progress of chemical decomposition. Where vegetables or fruits are gathered for use or preservation, the air of the atmosphere which surrounds them is continually depriving them of carbon and forming carbonic acid gas.

The water they contain, by its softening qualities, weakens the affinity of their elements and best produces the same effect, by dilating their parts, promoting the decomposing effect both of air and water.

Hence, drying in the sun or in ovens, is one of the most obvious modes of preserving vegetables for use as food, or for other purposes, but not for growth, if the drying process is carried so far as to destroy the principle of life in the seeds, roots, or sections of the shoots of ligneous plants. Potatoes, turnips, and other esculent roots may be preserved from autumn till the following summer, by drying them in the sun, and burying them in perfectly dry soil, which shall be at the same time at a temperature but a few degrees above the freezing point. Corn may be preserved for many years, by first thoroughly drying it in the sun, and then burying it in dry, cool pits, and closing them so as to exclude the atmospheric air. The corn is thus preserved from decomposition, from insects, or vegetation. The Romans preserved their corn in this way for many years in chambers hewn out of dry rock.

DIRECTIONS

FOR CULTIVATING THE MOST PROFITABLE GARDEN
VEGETABLES.

ARTICHOKE—*Artichaut.*

It should be planted in April and May, in fine rich earth, three-fourths of an inch deep. In the course of the season, cauliflowers, spinach, lettuce, &c. can be sown between the rows. In the after culture, keep it free from weeds by hoeing between the rows, which should be about five feet apart, with the plants two feet asunder in the row.

This, with occasional waterings in the dry weather of summer, is all the culture which they require.

ASPARAGUS—*Asperge.*

This delicious esculent vegetable, after due preparation of the ground, is easily cultivated. It requires a rich sandy loam, well manured to the depth of two and a half feet, and raised one foot above the alleys:—then, in addition, a good quantity of manure, well trenched in, fifteen inches below the surface. A plantation of one square rod is little enough for a family; and to plant this requires about one quart of seed. It should be sown in April or May, or three weeks before frosts in autumn, in rows, nine inches distant. That which is sown in the fall, should be well littered to nearly a foot thick, to protect the tender plants through the first winter. Let the crop, the first and second year, and nearly all the third year, run up to seed. Water it occasionally till the third or fourth year—loosen the ground every spring before budding, with a proper fork, and keep it clean of weeds during the season. At the approach of winter, cover it with a layer of dung to the depth of an inch or more.

In the third or fourth year, according to the perfection of the plants, cut the shoots for use, three inches

below the surface, as often as they spring up, till the twentieth of June, then let them run up to seed. This method will afford good crops for ten or twelve years at least.—The seed is best preserved in the berry.

In addition to the agreeable flavor, and nutritious quality of this plant, it is thought to be a good palliative, or remedy in the gravel.

BEANS—*Fève*.

English Dwarfs.—Plant in February or March—the great object is to get them into the ground as early as possible; whenever the frost intermits, and the earth is workable, do not lose the opportunity. A strong heavy soil is most suitable. The broad windsor and nonpareil are best for the table. Plant in rows, two feet and a half apart, three or four inches distant in the row, and about the same deep, which will preserve them through any subsequent frost. Use a dibble with a blunt end to make a wider aperture for each bean, to admit it down to the bottom without any hollow below. Pinch the tops off when in bloom, otherwise they will run too much to flower, and have but few pods. They will be fit for the table in June. Gather them when quite young. Shell them, and boil in plenty of water with a little salt, add a few stalks of spear mint (*mentha viridis*) which gives them a fine flavor. Serve up with melted butter.

KIDNEY DWARFS OR SNAPS—*Haricot*.—Plant about the latter end of April for a first crop, in rich well broken ground, and at intervals through the season—they will be fit for the table in about six weeks from the time of planting. The Mohawk is the earliest and hardiest, and will even bear a slight frost without injury. The Quaker Bean and Warrington are fine sorts, and the Refugee is well known for long bearing. Sow in rows from two to three feet apart, drop the beans between two and three inches distant, and cover them about an inch. The dwarf is a native of India, and the *runner* of South America.

When pulled for cooking, cut off the stalk end first, and then turn to the point and strip off the strings. If not quite fresh, have a bowl of spring water, with a little salt dissolved in it, and as the beans are cleaned and stringed, throw them in. Then put them on the fire in boiling water, with some salt in it; when they are tender, which will be in about fifteen or twenty minutes, pour them into a colander to drain. They should always be cooked young, and then the best method is to keep them whole, as it preserves their delicate flavor and color. When a little more grown, they must be cut across in two after stringing.

POLE OR RUNNING—*Haricots a rames*.—If your soil is poor, make it rich. Plant in hills about four feet apart each way, leaving three beans to a hill, during the second and third week of May. They are extremely productive, and yield till stopped by the cold weather.

BENE PLANT.—*Sesamum orientale*.

This was introduced into the Southern States by the negroes from Africa. It abounds in many parts of Africa. Sonnini and Brown, travellers in Egypt, say it is much cultivated there for the purpose of feeding horses, and for culinary purposes. The negroes in Georgia boil a handful of the seeds with their allowance of Indian Corn. Probably no plant yields a larger proportion of oil, which Dr. Cooper of Philadelphia has pronounced equal to the finest olive oil. But it is worthy of cultivation in the Northern States principally as a *medicinal* plant. A gentleman in Virginia has given Messrs. Thornburn & Son the following account of its virtues. "It requires to be sown early in April, at a distance of about one foot apart. A few leaves of the plant, when green, plunged a few times in a tumbler of water, makes it like a thin jelly, without taste or color, which children afflicted with the summer complaint will drink freely, and is said to be the best remedy ever discovered. It has been supposed, that (under Providence) the lives of three hundred children were saved by it last summer in Baltimore, and I know

the efficacy of it by experience in my own family.”— This plant will throw out a greater profusion of leaves, by breaking off the top when it is about half grown.

BEET.—*Betterave.*

Sow from the middle of May to June in drills a foot apart—thin out the plants to about eight inches. Have your ground rich and dig it deep. The plants will be fit to use during the summer, and must be taken up about the end of October. Trim the tops off, and put them away in the cellar.

Beets are highly recommended for fattening cattle, and are used by some people like other vegetables to all kinds of meat; but they are most suitable to corned and roast beef. They are also used as a pickle, and form a beautiful garnish.

The red beet is a native of the Sea Coast of the South of Europe.

The Sir John Sinclair Beet is a luxuriant growing variety. The leaves are from two and a half to three feet in length, and can be frequently cropped; at the same time care must be taken not to injure the centre or crown of the plant; they are as tender as lettuce, and can be boiled and served up like spinach, which they excel. Sow and cultivate like the common Beet.— They come early to maturity, continue thrifty throughout the season, and are remarkable for standing the severest drought.

The Mangel Wurtzel is the *Beta-cicla* of the family of the Beet, sometimes called the Root of Scarcity, and likewise called the White Sugar Beet, much celebrated in England and Prussia. The following are the directions for its field culture: Time of sowing, months of April and May. Prepare a plot or field, as for turnips or potatoes; open two drills with the plough, two feet apart, and put in a sufficient quantity of dung, according to the ground; then cover the dung with the plough twice, by ridging them up as high as can be well done, with a man shovelling between the drills right and left, smoothing the surface of the ridge above

the dung, which will leave a space of ten or twelve inches broad. This complete method of fallowing will repay the trouble of shovelling, by raising a full proportion of earth under the roots. After sowing, it should be well rolled, which completes the whole process. The crop to be afterwards treated the same as that of turnips or potatoes, by putting and taking off mould, &c. After the roots have been raised, the ground is in a remarkable fine situation for wheat or any other crop; sow three pounds per acre.

Domestic animals eat the leaves and roots with great avidity: both are good for feeding swine, and are not less eagerly devoured than corn. They are excellent for milch cows, and possess the quality of making them give a large quantity of the best flavoured milk.

BORECOLE.—*Brassica oleracea selenisia.*

Sown in May.—Valuable for winter and spring greens, when the frost is not too powerful for it. It is generally recommended to transplant them into trenches, and cover them with straw before winter, that the heads may be cut off as wanted. In spring, plant out the stems, which send forth delicious sprouts.

BRUSSELS SPROUTS.—*Brassica oleracea var.*

This is an open headed cabbage; grows very high, and produces a great quantity of excellent sprouts in spring. To be sown in May, and treated like cabbages; should be covered in the fall.

BROCCOLI—*Chou Broccoli.*

The Broccoli generally succeeds well in our climate; and is a very delicious vegetable, resembling the cauliflower. The seed should be sown the last of May for a full late crop. In July plant them out in rows, two and a half feet apart, on a rich soil. They will flower in October. The *earlier* planted ones will flower in August and September. If any of the late plants

should not flower before frost sets in, take them carefully up, and plant them in a warm cellar; they will flower before spring.

CABBAGE—*Chou*.

Sow your seed in September, (in frames,) March and April, in the open air for early sorts, in May, for late. For transplanting, if you can, choose warm showery weather: and if the plants wilt down very much, water them at evening, with rain water, or any other water that has been kept through the day, in a tub, or bucket, so as to be sufficiently warmed. And it may be well to observe here, once for all, that in watering plants, the water should never be poured down in a large stream or flood about the roots, as this would serve to wash away from them the surrounding earth and the nourishment they need, but should be turned through a sieve, or watering pot, sparingly at once, but repeated several times, till the surrounding earth is sufficiently moistened;—and this operation should be generally performed at evening, that the plants may have the benefit of not having the water too soon evaporated by the sun.

The ground should be often stirred. It may be unnecessary to mention, that with this, as with all other vegetables, the best seed is obtained from the best plants; they should therefore be selected;—and care must be taken not to place them too near those of an inferior variety, as the seed may thereby become adulterated. The seed will keep good six or eight years.

N. B. When cabbages are inclined to go to seed without heading, grasp the stalks and start the roots a little by pulling up; this will cause them to produce heads.

COW CABBAGE—*Brassica oleracea*.—This plant is of recent introduction into this country. It should be cultivated in the same manner as the common cabbage. [For its valuable properties, see 1st vol. Farmers' Reporter.]

CARROT—*Carotte*.

The Early Horn and Orange are esteemed best for family use. The directions for beets will answer for carrots, only leave the plants four inches apart in the rows. Sow from April to July, in a light, mellow, and sandy soil, dig one or two spades deep. The orange and red sorts require a soil deeper than the horn carrot.

The carrot is common by the road side in many parts of Britain; and once upon a time the ladies there wore carrot leaves instead of feathers. A curious chimney ornament can be formed by cutting off a section from the head of a carrot which contains the bud, and placing it in a shallow vessel of water. "Young and delicate leaves unfold themselves, forming a radiated tuft, of a very handsome appearance."

It is used in soups and stews, and as a vegetable diet to boil with beef or mutton.

CAULIFLOWER—*Chou fleur*.

Sow about the middle of September in an open border, and give moderate waterings if the weather be dry. About the end of October transplant into a good frame, after cutting off the long tap roots with a sharp knife, and put the plants four inches apart each way. Water gently, put on the lights, and shade them a few days. Before the cold weather sets in, apply a good outside lining of horse dung round the frame; and when it becomes severe, the frame must be covered with boards and salt hay, or bags, or straw mats, sufficient to keep out the frost. Admit air and light freely, to prevent the plants being drawn up weak, at the same time you must be careful not to freeze them. In soft mild days take off the lights entirely. Towards the middle of March, the weather will probably allow of the frame being fully exposed every day, but run the sash on when it storms, and cover the frame at night when frosty. About the tenth of April, prepare the final beds for the plants to flower in, by digging and manuring them well. The ground need not be raked, if it be well broken and dug level, as raking is apt to make it crust over. Wa-

ter a little before transplanting, if the weather be dry, and raise each plant with a ball of earth, which you must take great care not to break, as it is of great importance to the success of the cauliflower that its growth should not be checked at this period. Plant two feet or two feet and a half apart each way. "Should any of the plants be attacked by the black grub-worm, examine them every morning for ten or twelve days; and when any of them are cut off, search for the worm near the plant, and kill it, as it will be found within two or three inches of the stem, and half an inch below the surface; then replace the plant. If you suffer them to escape, they will gather strength and quickly destroy a whole planting."

This vegetable is extremely delicate, and is esteemed equal to young peas and the Lima bean. However, a great deal depends upon the cooking, and its excellence may be destroyed by an ignorant or careless manner of preparing it for the table. Cut when close and white, and of the middle size; trim off some of the outside leaves; cut the stalk off flat at the bottom, and let it lie in salt and water a little while. Put it into boiling water with a handful of salt in it; have plenty of water, and keep the vessel uncovered; skim the water well; a small cauliflower will take about fifteen minutes and a large one twenty: take it up as soon as a fork will enter the stem easily, a minute or two longer boiling will spoil it. Eat it with the gravy from the meat, or with melted butter.

CUCUMBER—*Coucombres*.

The best kinds for early planting are the early frame, green cluster, and long prickly. Plant in the open ground, about the first week of May, in hills four feet apart, both for the general crop and for the pickling sorts; make the ground rich with vegetable mould and rotted cow dung, and leave only one good plant in each hill. If the provoking yellow fly attacks your plants, examine them frequently, and throw tobacco dust or soot round the vines. Some recommend to nip off the

first runner bud, which causes them to grow more stocky and become more fruitful plants. Keep them clear of weeds, and give plenty of water in warm dry weather. We would suggest whether it would not be advantageous to grow the cucumber in a little concavity or hollow, as water could then be effectively applied in warm weather. Give water at any time of the day if necessary. Cobbett ridicules the idea of impregnating the female blossom with the male, and he is sometimes right; though it is a practice followed by many of the best English gardeners.

CELERY—*Celeri*.

Sow about the middle of April, in a rich, moist soil; if not rich, make it so by mixing in fresh vegetable mould or short well rotted manure. Dig deep, and rake it fine and smooth. Sow the seed liberally all over the surface, and beat the bed evenly and firmly with a clean spade; then sift on a covering of a quarter of an inch of earth, and it will vegetate as soon as cabbage seed.

The following directions for its after culture, are given by Mr. Fessenden in his "New American Gardener."

"When either the plants left in the seed-bed, or those removed, are from six to twelve inches high, or when the latter have acquired a stocky growth, by four or five week's nurture in the intermediate bed, transplant them into trenches for blanching. For this purpose allot an open compartment. Mark out the trenches a foot wide, and from three to three and a half distant; dig out each trench lengthwise ten or twelve inches in width, and a light spit deep, that is, six or eight inches. Lay the earth dug out equally on each side of the trench; put about three inches of very rotten dung into the trench, then pare the sides, and dig the dung and parings with an inch or two of the loose mould at the bottom.

Trim the tops and roots of the plants, and then set them in single rows along the middle of each trench, allowing four or five inches distance from plant to plant.

When this work is finished, give the plants water in plenty, and occasionally water them from time to time, if the weather be dry, and likewise let them be shaded till they strike root and begin to grow. When they have grown to the height of eight or ten inches, draw earth to each side of them, breaking it fine. This should be done in dry weather, being careful not to bury the hearts. Repeat the earthing once in ten days, till the plants are fit for use. Be careful, however, not to draw up too much earth to the plants at first, lest they be smothered; and leave them in a little hollow, that they may receive the full benefit of the waterings, rain, &c."

Care should be taken when earthing, not to do it when the ground is wet. It should be done in the after part of a dry day, for if the earth be wet the celery will rust. Instead of earthing up once in ten days, as recommended above, I would suggest the propriety of having it done as often as twice in a week at least. This will subdue the weeds and nourish the plants more than the former process.

CRESS GARDEN.—*Lepidum sativum*.

This vegetable is raised from seed, of which one ounce is sufficient for a bed four feet square.

"Sow the seed very thick, and earth over very lightly, or just thinly cover. Give occasional waterings in dry weather."

To gather cress in perfection, cut the plants when moderately young, either quite down to the roots, or only the tops of those most advanced. They will shoot again for future gathering, but the leaves will be hotter, and not so mild and tender as those of younger plants.

CURRENT—*Ribes*.

They require an improved clay soil, somewhat moist. It should be well dug up two feet deep—then set the thrifty sprouts of last year's growth, eight inches deep and two feet apart; cut off the tops so as to leave but

three or four buds above the ground. Keep the roots free from suckers and grass, and you will soon have currants enough to make your own wine, for which the following, by Dr. Green, is a good receipt:

Take clean ripe currants, bruise and press out the juice and add twice as much water. To every gallon of this mixture add three and a fourth pounds of clean sugar, and one gill of brandy—also, one-fourth of an ounce of pulverized alum—put the whole into a clean cask; and in March draw off, and add another gill of brandy to each gallon. This wine is excellent, and improves by age.

ENDIVE OR SUCCORY—*Chicoree*.

Sow in July, and when four or six inches high, transplant into ground in fine order, in rows fifteen inches apart each way. They must be hoed and kept clear the same as lettuce, and where the soil is high and dry, earth them up half way; but if moist, merely tie them. The two curled sorts, if neatly earthed up, will blanch pretty well without being tied, but the Batavian, from its loftier, looser growth, hearts and blanches better with a bandage. This must be done when nearly full grown, and when the leaves are dry; tie moderately tight near the top with a piece of bass mat. By thus excluding the light from the inner leaves, they become blanched, crisp, tender, and fit for use.

The endive is a hardy annual, and a native of China and Japan. It is used in salads and stews.

The root of the wild endive is very wholesome and nutritious. It is highly esteemed in France, and forms a prominent ingredient in producing the very superior flavor of continental coffee. The aromatic and volatile qualities of coffee are, by the combination of this root, rendered more mellow and full upon the palate, and its fragrance greatly increased, producing an agreeable tonic and most exhilarating beverage.

Sow in drills in April, about a foot and a half apart, and thin out to seven or eight inches distance in the row. In the fall take up the root, dry and grind it, and use two ounces of the powder to a pound of coffee.

EGG PLANT, OR MELONGENE—*Melongene ou Aubc.*

Sow in hot beds in March, in the open air in May. They should be raised about two feet asunder, with a little earth drawn up round their stems; when about a foot high, they will produce plenty of fruit, of most beautiful appearance. When sliced and nicely fried, with ham, &c. they are esteemed as a delicious vegetable. It is difficult, however, to make the seed vegetate in the open air—should always be started in hot beds.

FENNEL—*Anethum Faeniculum.*

The earth for this plant should be light. Sow as early in the spring as the ground gets warm, in drills from six to twelve inches apart, or scatter the seed broadcast and rake them in. "When the plants are three or four inches high, thin or transplant a quantity fifteen inches apart. They will produce immediately leaves for present supply, and in continuance; or for an immediate larger supply of leaves you may procure some established full roots, and plant as above: let them be well watered.

"The tender stalks of common Fennel are used in salads; the leaves, boiled, enter into many fine sauces; and raw, and garnishes for several dishes. The blanched stalks are good with oil, vinegar, and pepper, as a cold salad."

GOOSEBERRY—*Vitra grosularia.*

Plant the cuttings in the fall just before they cast their leaves. Wine is made from gooseberries, in the same manner as from currants, only using one-third less sugar. The unripe fruit may be kept in bottles of water, in a cool place, till winter.

KALE—*Chou d'Ecosse.*

The *Sea Kale* grows spontaneously on many parts of the seacoast of England. The inhabitants seek for it in the spring, and remove the pebbles or sand with which it is usually covered to the depth of several

inches, and cut off the young and tender leaves and stalks, as yet unexpanded, and in a blanched state, close to the crown of the root.

It is easily raised in the interior—is very hardy—grows in almost any dry soil—is perennial, and costs but little labor, and may be raised from the seed or the root; (if raised from the seed, *it should be cracked before planting*, or, what is much better, *plant the new seed in October, as soon as ripe*, when they will grow freely—the seed is hard to vegetate, if kept till spring.) Fifty plants, occupying a very small space, will supply a family. In its taste it resembles the cauliflower. The only labor it requires, is to cover it with sand or earth, with pots or boxes, in March, to blanch it, or make it white. If not blanched, it is not so beautiful to the eye, or so tender, or so delicate to the taste, as if blanched. It should be very *thoroughly boiled*, and is better if boiled in milk and water. It should be served up, like cauliflower, with melted butter. It comes in at a season when our vegetables in this country are very deficient. Sown in April and May, and in October, (with the new seed,) as above directed.

LETTUCE—*Laitue*.

This requires a rich mellow soil. A bed four by ten feet requires one fourth of an ounce of seed. Sow in any or every month from the opening of spring till August. It may be sown broadcast, or in drills with the rows from twelve to fifteen inches distant; or it may be sown with any young perennials, that stand far enough apart.

MELON—*Melon*.

Of these there are many varieties of each, all requiring nearly the same culture;—they should be planted remote from cucumbers, squashes, gourds and pumpkins, to prevent adulteration and degeneracy. Seed is best after it has been kept two years. It will grow if twenty years old,—and it should be carried in the pocket a week or two before planting.

It requires an unexhausted loam, not too light. In May dig up a piece well exposed to the sun, and lay it off in squares of six feet—at the angles dig holes twelve inches deep and eighteen inches over, into these put six or eight inches of well rotted dung, and mix it well with some of the earth,—draw the remainder of the earth over to form hills of a foot across; then plant seven or eight seeds in each hill, two inches apart, and cover them half an inch deep. When they have grown, so that you can be sure of two or three that will stand, pull the rest out—draw the earth from time to time as high as the seed leaves. It may be well to bury every fourth or fifth joint to take new roots. When the young melons are as large as walnuts, put under them shingles, or boards, to keep them dry and warm—they will be better for it.

MUSTARD—*Sinapis*.

The white, for salad or greens, should be sown in the fore part of the season, in warm sunny places. In midsummer it should be sown in sandy ground. It should be planted in flat drills, from three to six inches apart, and covered half an inch deep.

Black mustard is sown in the field in March or April for the mill, in drills from six to twelve inches asunder, or it may be sown broadcast and raked or harrowed in. When two or three inches high, it should be hoed and thinned out. It ripens in July or August.

NASTRIUM—*Capucine*.

This is deserving of cultivation on account of its beautiful orange colored flowers, its excellence in salads, and its use in garnishing dishes. The grain, berries, or seeds of this plant, which it produces abundantly, make an estimable pickle: in the opinion of many preferable to capers. It is sown in drills in April and May, nearly an inch deep. When about six inches high, it should have sticks placed to climb upon, or they may be planted by the side of fences, palings, &c.

OKRA—*Gombo*.

Sown in the beginning of May—used as an ingredient in soups, and is a beautiful ornamental plant. It is cultivated extensively in the West Indies. Its ripe seeds burned and used like coffee, can scarcely be distinguished therefrom. It should be planted an inch deep, and hoed two or three times like pease.

ONION—*Allium cepa*.

For onions a rich mellow soil is best; and they may be sown on the same ground, if well manured, many times in succession. Rotten dung mixed with ashes, soot, or pulverised charcoal makes the best manure for this vegetable. After sowing, spread over ashes and sand, and roll or flat down the beds with a spade, or board as already directed. The beds should be raised three or four inches above the alleys, and sown in drills, twelve inches apart, as soon as the ground is dry enough to work in the spring;—they should stand three or four inches distant in the drills. For early onions sow the last of August for next spring's crop. And in the spring, as soon as they are large enough, draw them out for use, till July; and let those that remain till that time, run up to seed.

The beds should be kept clean and loose. Keep the manure near the surface, where the roots can reach it. If the tops grow too fast they may be broken down.—When they are pulled they should be laid in the sun, and often turned for five or six days to dry. Then if they are roped up, and kept dry and cool, they will be best preserved.

A few leaves of parsley eaten with vinegar, will correct bad breath from onions.

The Top or Tree Onion has the remarkable property of producing the onions at the top of the stalk—and is valuable for domestic use, particularly for pickling, in which they are excellent, and superior in flavor to the common kinds. It is also used for any other purpose that onions usually are. It is perennial and propagated by planting the bulbs in spring or autumn, either the

root bulbs, or those on the top of the stalks. The latter if planted in spring, as directed for the other kinds, will produce very fine, handsome sized onions of excellent flavor. The root bulbs increase greatly by offsets, and should be taken up once in every two or three years, when the stems decay in autumn, and re-planted again to produce a supply of top bulbs.

The Potatoe Onion is of late introduction into our country. It possesses the singular property of producing from one onion, six or seven in a clump, under ground, similar to potatoes. It partakes of the mildness of the onion of Portugal, grows very large, and is easily cultivated. Prepare your land in the best manner, and plant out one onion in a hill, the hills to be one and a half feet apart. The ground should be frequently hoed about them. It does not produce seed as other onions, but is increased by the root.

POTATO.

To raise a crop of potatoes, authors and practical men are not agreed, as to the propriety of cutting the potatoes for planting. Some prefer to plant them whole, however large, while others advise to cut off the watery, or seed end, as it would run too much to vines, or *haulm*, and to reject the dry, or root end, as too tardy in its growth; and to cut the remainder of the tuber, into pieces of one eye; and to plant the eyes uppermost. But this seems to be an unnecessary waste of seed. Better cut the whole potato into pieces, or plant it whole, or even cut off the watery half, or seed end for planting, and use what remains for the table.—After cutting, let them be dried in the sun, or wet and rolled in plaster. For early potatoes plant the largest—the smallest will do for a late crop, if they are planted in good season.

Let the ground be ploughed deep and trenched, or furrowed two feet apart, then plant your seed, from eight inches to a foot apart, one piece in a place, on long dung, and cover them six inches with earth.—Hoe them two or three times before they blossom, and not

afterwards. When you raise your crop, let the sun shine on them as little as possible: if it turns them green they are poison. They should be kept as cool as may be without freezing, and somewhat moist.

SWEET POTATO.

Plant them in a hot-bed early in April, about three inches deep. When the sprouts are three or four inches above ground, part them from the potatoe, and set them into hills properly manured, and raised a little above the surface. The seed-potato, if left in the ground, will continue for some time to furnish sprouts.

Good crops of sweet potatoes may be raised in the neighborhood of Lat. 40. by a little attention to the nature of the plant. Sweet potatoes are produced from the joints of the vine, and not from the old potato. To make them fruitful these joints must be covered with earth, and the potato forms there.

The best method of cultivation is as follows:—Some time in April make a hot bed of horse manure about eighteen inches thick; on the manure put three inches of earth; on this earth plant the seed potatoes three inches apart, and cover them four inches deep with earth.

When the sprouts are three inches above the ground, draw them out with the hand, and transplant them (as you would cabbage plants) in soft rich ground, in rows four feet apart, and put the plants about a foot apart in the rows. Keep them clear of weeds until the vines begin to cover the ground, after which they are left to themselves.

If the hot-bed is made early in April, the early sprouts will be ready for transplanting early in May. The bed will continue to throw up a second and third succession of sprouts, all of which will afford good potatoes, if planted out any time before the end of June. A hot-bed five feet square, with half a peck of seed potatoes, will produce a succession of sprouts, sufficient to yield about fifteen bushels of sweet potatoes.

PARSLEY—*Persil*.

Sown from April to August. Parsley seed seldom vegetates under five weeks after sowing; it is recommended to soak the seed twelve hours in water, mixed with sulphur. This process, with attentive watering, will cause the seed to vegetate in less than a fortnight. Parsley is sometimes used in field culture.

PARSNIP—*Panais*.

This vegetable requires a deep, rich, light soil, free from stones, and should be dug or trenched before sowing, at least two spades deep; and if manured at the same time, the dung should be quite rotted and well worked in. Sow as early in the spring as possible, in drills two feet apart, and cover the seed about one quarter of an inch deep. Thin out to ten inches in the rows, and keep them free from weeds by regular and frequent hoeings.

PEA—*Pois*.

Sow as early in the year as the ground can be worked, in a sheltered situation in double rows four feet apart, and cover the peas about three inches. Manure moderately, and dig it in well. Sow the early Washington and the blue Prussian together, and the former will come in a fortnight before the other. A quart of peas will sow two double rows about twenty-five feet each. As the early crops appear, draw the soil over them; and as they advance from half an inch to three inches high, and when the weather is dry, draw the earth to the stems, and continue repeatedly to hoe and earth up, as it will assist the pease to bear plentifully. When they are six or eight inches high, place a row of sticks or brush about five feet long in the middle of the double rows, and a few smaller ones on the outside of each row. Suit the sticks to the pease, as there is an advantage in having them of a proper length; they should be both tall and branchy. Sow again from the middle to the end of April, to come in use about the end of July and beginning of August. Where great nicety

is practised, put of the early frame about three to an inch, the charlton, hotspur, and dwarf marrowfats, two; the Prussian blue and middle-sized sorts, three in two inches; the large marrowfat, the rounceval, and most large sorts, an inch and a half apart.

Mr. W. Curr has been very successful in raising early pease; the following are his directions: "The pease which I have found to do best with me are the early double blossomed frame pease. I prefer to have them two or three years old, as they bear earlier and do not run so much into vine. An early piece of ground should be selected for this purpose, not too rich, and if possible lying dry. It should be well dug without dung, and made fine with the spade and rake. The drills should be drawn three feet and a half apart, six inches deep, and two inches wide at the bottom, and about one inch of well rotted short dung laid in them, which should be covered with two inches of earth, and the pease sown over them with about six inches of earth, which leaves a small ridge immediately above the pease. In this state they may lie for eight or ten days, the ground may then be raked level to await the coming up of the pease. Should they make their appearance in cold weather, a little litter or straw may be laid along the drills, and taken off whenever the air is free from frost. When the pease are about one inch high, the earth should be gently stirred with the hoe on each side of the row, and when they are advanced to about three inches in height, a little earth may be drawn up to their stems; if the weather be cold, they may be protected by setting two boards on the edge so that they meet together over the row. As the pease advance, the earth should be stirred near the rows, and when six inches high, they ought to have sticks set out on each side of the row at the distance of from twelve to eighteen inches apart, taking care not to have the sticks too crowded, yet to have enough of branches near their bottoms, so that the tendrils of the pease may take easy hold. Care should now be taken that the pease keep upright; when they put out six or eight flowers, the leading shoot should be stopped by nipping the top off—this greatly promotes

the forming and filling of the pods. Should the weather be dry, it may be requisite to water them; this should be done at night, and should be repeated every night during the continuance of the drought. Pease thus raised are seldom attacked with the bug. For the later crop, the double row is generally used, and answers better than the single, as the double take nearly the same quantity of sticks, and are more shaded from the sun, which is a great advantage when the sun gets high. The ground may likewise be stronger and the sticks longer, but for the earliest pease the small quantity of manure used is quite sufficient to push them forward, without giving too much force to their after growth, or to keep them flowering, setting, and filling their pods."

Between rows of the tall growing kinds have beds of onions, carrots, turnips, or any other crops that grow low; but there is a later method of planting pease, which is more economical of room, and is said to be preferable to any other plan: thus, instead of sowing a straight row, form the ground into circles of three feet diameter, with two feet between each, in a row thirty feet long, and there will be six circles of pease of nine feet each, making fifty-four feet instead of thirty, which would be the length of the row. If another row of circles is wanted, leave a bed between for something else, and go on as before. For the very tall sorts, four feet circles will be best. Be careful to apply the sticks at the proper time.

Bishop's Early Prolific Pea is extremely productive: and surpasses in some of its qualifications any pea hitherto known. Its remarkable dwarfishness is a great recommendation for small gardens, as it seldom exceeds twelve inches in height. Plant two or three inches apart in the rows, which its spreading habits require, and which answers better than when sown closer, hence it is obvious there will be a great saving of seed, as a quart of this will go as far as four quarts of most other pease. It is very early, and begins blooming when three inches high, bears abundantly, and is fine eating. Plant weekly for a constant succession, and green pease may thus be obtained all the summer and autumn. From

the nature of its growth it appears better calculated to withstand the heat of our summers than any other variety we know of.

Woodford's New Tall Prolific Pea is a very great bearer, and is remarkable for continuing to yield during the greater part of the summer. It has a fine green color when dry. Sow about the tenth of May.

It is recommended to farmers to plant pease in their potato hills. A farmer to the east of us says he raised more pease last year from a peck sown in this way, than from a bushel sown in any other way. The vines of the potatoes serve as sticks for the pease to run up on; and the size of the pease will be much increased by planting in this way. After the potatoes are planted, go through the rows and plant three pease in a hill.

PEPPER—*Pinent*.

Sow the seed in a warm border, the last of April, and then transplant eighteen inches apart; or sow the seed in May, in drills, two feet apart.

RADISH—*Raphanus sativus*.

It requires a light mellow soil, well dug up. The small sorts may be sown among lettuce, onions, &c. They should be sown every two weeks, from April to August, to insure a succession of crops. They may be sown broad-cast, or in drills, not too thick, as the tops would run up too much, and the roots be stringy. They should stand from two and a half, to five inches apart, the seed should be covered from half an inch to an inch deep, according to the weather or season. In dry weather, water them freely—this swells the roots, and makes them crisp. To prevent worms, take equal parts of buckwheat bran, and fresh horse dung, and mix well with the ground—in forty-eight hours fermentation, and a crop of toad stools will be produced. Dig the ground over—sow the seed—they will grow rapidly, and be free of insects. Leaves of radish are often used as salad; and the green pods are pickled, as

substitutes for capers. Old radishes are indigestible, and render the breath bad.

The earliest should be kept for seed, and require about a yard of ground to each.

RHUBARB—*Rheum undulatum*.

An Asiatic plant, the stalks of which grow to the height of twenty four inches and the thickness of a lady's finger. Stripped of their outer covering, they yield a substance slightly acid, much admired, and used as an ingredient in puddings, tarts, pies, &c. It forms a great article in the London market, the stalks selling at about twenty-five cents a bunch.

The seed should be sown in a rich, dry, sandy loam, about three-fourths of an inch deep, as early in the spring as possible, (if done in November they will vegetate in spring with more certainty;) when the young plants appear, keep them free from weeds; if dry weather, water them frequently, with but a little water at a time; and be very careful to protect them from the mid-day sun, till they get considerably strong, for if exposed fully to this during their infant state, but few will escape destruction. A wide board placed side-wise on the south side, projecting over the plants a little, would serve this purpose effectually, without depriving them of the benefit of circulating air. The first season is their critical period, having survived that, they have nothing to fear. In November, the leaves having decayed, cover the crowns of the plants two inches deep, with earth from the intervals. In April strip off the covering till you perceive the tops of the plants, give all the ground a slight digging, dress it neatly, keep the beds well hoed, and always free from weeds. It is much better propagated by *slips* from the old *roots*, in the spring months; the *seed* starts very readily if sown in the autumn, but is very shy of vegetating in the spring.

SPINACH, OR SPINAGE—*Epinard*.

Sow broadcast in rich ground, about the middle of August to come into use in October, and about the tenth

of September for spring use: or sow in drills eight or ten inches apart, and hoe and keep clean. When the winter has fairly set in, the plants must be covered with straw, salt hay, or cedar brush: they will bear the frost of an ordinary winter without protection; but by covering them, an earlier and better crop is obtained.

SQUASH—*Giraumon*.

“The Early Bush Squashes are best for garden culture, and their produce is allowed to be equal in quality to the running kinds. The Vegetable Marrow is also well deserving of cultivation. The seeds of these may be planted early in May, in hills four or five feet apart. The Running Squash may be planted at the same time and in the same manner as pumpkins; and the management of these various kinds of vines is the same in every respect as cucumbers and melons. It is always best to put five or six seeds in a hill, as a guard against accidents. When the plants are past danger, they can be thinned to two or three in a hill.”

The fruit of the early or summer sorts are unfit for use when ripe; and the winter sorts cannot be used till they are ripe.

SALSIFY, OR VEGETABLE OYSTER—*Salsifis ou Cercifs*.

Sow early in April, an inch deep, in drills twelve inches apart. When the plants are two or three inches high, they should be thinned to the distance of six inches from each other, and afterwards hoed. The ground should be kept clean and loose round the plants, by repeated hoeings; and in the autumn they will be fit for use. The roots may be taken up late in the fall, and secured in moist sand from the air; or be suffered to remain out, and dug up when wanted.

STRAWBERRY—*Fragaria*.

There are many varieties, and the number is constantly increasing by crossing and cultivation.

It requires a light warm soil, manured exclusively with vegetable matter. Rich manure increases the vines, but diminishes the fruit. Rotten wood and leaves, with ashes, in a compost heap, are the best manure. It requires great moisture. The usual time for transplanting is August or May. Let the bed be two feet wide—set the plants, if they are strong, one shoot in a place, eight by twelve inches distant, that they may form a matted bed. Leave on all the healthy leaves; keep the ground loose and free from weeds. To keep the fruit from the ground, put round the borders of the beds straw or leaves. Seeds sown as soon as ripe, will produce fruit the next year.

This fruit does not undergo acetous fermentation. Care must be taken to transplant a few *male*, with the *female* plants, in number about one of the former to fifteen of the latter. [See *Farmers' Reporter for Nov. 1831.*]

SKIRRET—*Chervis*.

Sow the latter end of March or early in April, in a light moist soil, for in dry land the roots are generally small, unless the season proves wet. The root of the Skirret is composed of several fleshy tubers, as large as a man's finger, and joining together at top. They are eaten boiled, and stewed with butter, pepper, and salt, or rolled in flour and fried, or else cold with oil and vinegar, being first boiled. They have much of the taste and flavor of a Parsnep, but a great deal more palatable. The seed of the Skirret are five or six weeks in vegetating.

SUMMER SAVORY.

Sown on hot-beds in March—in the open air in April and May—an excellent and well known pot herb, of easy culture.

SAGE.

Sown on rich soil, in drills, the latter part of April—the next spring after sowing, transplant it two feet apart, into beds of rich earth—it is best to give it some shelter of horse manure and straw during the winter.

TOMATO—*Tomate ou pomme.*

It should be sown in hot beds in March, or in warm borders the first of May. Its cultivation is too well known to require further directions.

TURNIP—*Navet.*

Sow as early in the spring as possible, on a light, moderately rich soil. It should be well dug, and if necessary to manure, let it be done at the latter end of the year, or if applied at the time of sowing, the dung should be well rotted and buried beneath the surface; fresh dung should never be used for turnips. Sow broadcast and rake in; when the plants are well up, thin out with the hoe to six or eight inches. For the fall and winter crop, sow about the tenth of August, on good ground, from which an early crop of lettuce, radishes, potatoes, &c. may have been taken. Clear the ground and dig it well—sow broadcast as before, and thin out with a hoe to fifteen inches. When sowed in rows, the drills should be an inch deep, and twelve or fifteen inches asunder.

Sand or gravel, with a mixture of loam, produce the sweetest and best flavored roots. It should be made fine, but not too rich, lest the turnips be rank and ill tasted. Ground which has been newly cleared from the forest, yields the largest and sweetest roots; and on such spots there is least danger from insects. “Next to new land, swarded ground is to be chosen for a crop of turnips; and the way to prepare it is, to plough it pretty deep in the spring, and fold it by turning in the stock for a good number of nights; for there is scarcely any of our fields sufficiently rich to produce turnips without manuring; and folding in this way appears to be the best method of enriching the ground for this purpose. It should be well harrowed as often as once a week, while the folding is continued, to mix the excrements of the cattle with the soil.”

To prevent the depredations of the fly, which infest this plant in hot weather, let the seed be steeped in water, with one ounce of sulphur to the pint. One

pound of seed will sow an acre; and should be sown in that proportion for smaller pieces of ground.

In compiling the preceding directions for cultivating garden vegetables, I have been greatly assisted by the catalogues of seeds, &c. of Mr. B. Russell, and Mr. George Thorburn's establishments, and by a treatise published by Asa Lee Davison, Esq. of Ohio.

HOW AND WHEN TO WATER PLANTS.

A copious supply of water is very essential to a good garden. Loudon remarks, 'that many kitchen crops are lost for want of watering. Lettuces and cabbages are often hard and stringy; turnips and radishes do not swell; onions decay; cauliflowers die off; and in general in dry seasons all the *cruciform*, (flowers with petals in the form of a cross) become stunted, or covered with insects, even in rich, deep soils. Copious waterings in the evenings, during the dry seasons would cause that fulness and succulency which we find in vegetables produced in the low countries, and in the Marsh Gardens at Paris, and in England at the beginning and latter end of the season.

•Watering is requisite for various purposes, as aliment to plants in a growing state; as a support to newly transplanted plants; for keeping under insects, and keeping clear the leaves of vegetables.

One general rule must ever be kept in mind during the employment of water; that is, never to water while the sun shines. A moment's reflection will convince any one that this rule is agreeable to the laws of nature, for during rain the sun's rays are intercepted by a panoply of fog or clouds. All artificial watering, therefore, should be carried on in the evening or early in the morning, unless it be confined to watering the roots, in which case transplanted plants, and others in a growing state may be watered at any time, and if they are shaded from the sun, they may also be watered over the tops.

The water used for watering vegetables, if taken from a well or cold spring, should be exposed one day at least to the shining of the sun, otherwise it will give a chill to the plants. Only a small quantity should be applied at once, that it may have an effect similar to that of a refreshing rain: for water applied too plentifully sometimes washes away the finest of the mould from the roots, or makes little cavities about them, which admit too much air.

A NEW AND EFFECTUAL WAY TO DESTROY BUGS IN A GARDEN.

On every square rod planted with cucumbers, put a piece of a board flat on the ground, to preserve your plants from a striped bug, which some seasons is very destructive. This simple experiment may seem to be novel and ineffectual: but the secret of the matter is, the board forms a shelter for a toad, which hops from under the cover at night and destroys the bugs, and during the day time may be found by turning over the board. Should any one have doubts on the subject, he can easily try the experiment.

DIRECTIONS FOR MAKING FLOWER-GARDENS.

As a general principle, almost every thing that grows, thrives best in a rich soil; there are a few exceptions, but they are so trifling, that this rule may be laid down for all practical purposes: therefore make your ground rich; decayed vegetable matter from the woods is best for a flower-garden; dig and turn it well over, and make it level; then rake it smooth; if it is well dug, it will be perfectly level, therefore the raking is necessary only to make it smooth and fine. In small gardens, where there is not space for picturesque delineations, *neatness* must be the prevailing characteristic. "A variety of forms may be indulged in, provided the figures are graceful and neat, and not in any one place too complicated. An oval is a figure that generally pleases, on account of the continuity of its outlines; next, if extensive, a circle. But hearts, diamonds, or triangles,

seldom please. A simple parallelogram, divided into beds running lengthwise, or the larger segment of an oval, with beds running parallel to its outer margin, will always please." When your ground is ready, mark out a bed according to the number of kinds you have to sow; we will suppose you have forty, a little bed, ten feet six inches long by two broad, will hold them, (when there is plenty of room of course more can be taken.) Fasten your line on each side; begin at six inches from one end, have a square stick, longer than the width of the bed, with a mark near each end and one for the centre; lay it across the bed, and place the number-stick with the name of a sort on each side exactly in the middle; draw a shallow drill with your fingers; take two sorts, and sprinkle one along the drill on one side of the number-stick, and one on the other; press them gently down, and cover them about a quarter of an inch: then move your stick six inches from the drill, put in the number-stick, sprinkle, cover, and proceed till you have filled the bed. You will now have twenty rows, and two kinds in each row. Half a row will contain as many plants as you will want of one kind, that space being sufficient for twenty or thirty dahlia seed, and of the smaller kinds two or three times that number. At the latter end of April or the beginning of May, the seed must be sown: in about a month, more or less, many of them will be fit to transplant. Take advantage of cloudy and rainy weather for this operation; move the plants carefully with a transplanting trowel, the smaller kinds set in front, the larger in the rear, taking care to arrange them alternately according to their color and time of flowering: but if the sky be unclouded and the sun bright, give a little water, and it will be safest to cover them with a flower-pot or something else for a few days. Any thing may be transplanted that we know of, except the Poppy and Lupin, and these we believe to be impossible; they must therefore be sown where they are to flower.

The *Convolvulus minor*, with its beautiful azure, open to the morning and closing with advancing day, penetrates deeply, and cannot easily be moved, and it should

be done when quite young. Many other flowers, which have long naked roots, should also be moved when young. Sow Mignonette near your house, under the windows, any where and every where, wherever you can constantly enjoy its delightful sweets; it is most fragrant in spring and autumn, and continues till quite cold weather.

The cypress vine (*ipomæ quamoclit*) has been generally supposed to possess very tardy vegetating properties, and that without artificial aid it would necessarily lie in a state of quiescence five or six weeks: we are satisfied, however, from experience, that if the seed is good, and it is not planted till the end of May, it will be out of the ground in a week, or as soon as about any other kind. It is very much admired, and deserves to be. Of all the annual vines it is the most worthy of commendation, as it combines neatness, elegance, and beauty.

In dry seasons, when no rain falls for five or six weeks, and the earth becomes parched and hard, and dry for several inches deep, the smaller and more delicate kinds look stunted and miserable, and the taller and sturdier are shorn of the full and ample proportions which they attain when visited by kindly and refreshing showers. The china-aster, dahlia, phlox, and some others, are very impatient of dryness; but we know of no flower of more obdurate habits than the chrysanthemum, which will resist the most searching exsiccation for a long period. The balsam, though one of the most succulent of plants, can support an extreme degree of dryness without detriment; but mignonette, the monthly woodbine, and some other fragrant flowers lose their precious odours in an arid atmosphere.

The foregoing directions are principally intended for small gardens in the city, where it is necessary to use great economy, in making the most of a little; what follows, relates to the general culture and management of large gardens, which we copy from that inexhaustible source of horticultural treasures, *Loudon's Encyclopædia of Gardening*. This splendid work contains every thing connected with the art; and though these

notices were written for the guidance of English gardeners, they are equally applicable to the arrangement of flower-gardens in this country, by a slight alteration with regard to the time, as the spring is much earlier in England, and consequently the ground there can be worked, and seed sown a month or two before we can commence gardening operations.

The cultivation of the Flower-Garden is simple compared with that of the kitchen-garden, both from its limited extent and the general sameness of its products; but to manage it to perfection requires a degree of nicety and constant attention beyond any other open-air department of gardening. As the stalks of flowering plants shoot up, they generally require thinning, and props for support; and the blossom, both of plants and shrubs, no sooner expands than it begins to wither, and must be cut off, unless, as in some of the ornamental shrubs, they are left for the sake of the beauty of their fruit. Weeding, watering, stirring the soil, cutting off stems which have done flowering, attending to grass and gravel, must go hand and hand in these operations.

With respect to the *general culture and manuring the soil*, it should be subjected, as far as practicable, to the same process of trenching to different depths as that of the kitchen-garden. In the shrubbery this cannot be done, but it, and also the earth compartments of the flower-garden, should be turned over a spit in depth, and some vegetable mould, or very rotten cow-dung, added occasionally. Every two or three years the plants in the flower-garden should be taken up and reduced in size, and the beds or borders trenched, say one time at two spits deep, another at three, and so on, adding enriching compost or manure completely rotted, according to circumstances. If, instead of trenching, the old earth were entirely removed, and replaced by good loam from a dry upland parterre, the improvement would be still greater. Most herbaceous plants flower well in such loam, and for the more cultivated sorts, as border pinks, polyanthuses, &c. that require a rich soil, a portion of enriching matter could be added to each plant as planted, and a corresponding attention paid to such

as require peat-earth, sand, clay, or lime. In the shrubbery, a similar renewal of soil, and attention to the soils required by particular shrub-plants, is also necessary, at least in front, where the more delicate shrubs naturally rank, and where the herbaceous plants are chiefly arranged.

With respect to the *times of planting, or sowing, and manner of cropping* the flower-garden and shrubbery, the greater part of the surface being covered with shrubs or plants of perennial duration, very little cropping is required, and as a substitute for a rotation, recourse must be had to the renewal of the soil as recommended above. Annuals are sown at various periods from April to June; but for the principal show, generally in May: the half-hardy sorts are raised in hot beds in the reserve department, and transplanted where they are to flower in May or June, and later sowings and transplantings are made to procure a protracted display. Biennials and perennials of the fibrous or ramose rooted kinds are transplanted from the reserve department in October or April; and such bulbous roots as are annually taken up, are generally replanted in November or April. When bulbs and other florists' flowers are cultivated in beds, a rotation may be adopted as far as respects them: thus the hyacinth, tulip, &c. may be succeeded by annuals, and those by the dianthus tribe, or dahlias, &c.; but in borders and compartments planted in the mingled manner, as well as in shrubberies, a rotation is out of the question. Particular care is requisite to remove weak, ill-conditioned, or ill-flowering plants, and to replace them by others of the same height and color. This may be done at all seasons of the year by the use of the transplanter; but the better mode is to have always an ample stock in the reserve-garden, of all the colors and heights, both of herbaceous plants and low shrubs, in pots, and whenever, when any plant is in flower, a defect appears, it can be remedied at once by turning the plant out of the pot into its situation in the border.

Herbaceous plants require little pruning, but nevertheless something in this way may be occasionally

required on the same general principles applied to trees. Where very large flowers are wanted, it is obviously advantageous to prevent the plant from expanding its vigour in too great a number of them, or in mere shoots and leaves. Top-heavy plants, as some thistles, solidages, &c. may require to be lightened, and almost all are benefitted by thinning out a part of their shoots. In some annuals, thinning is effected both by eradication and pruning, and in the more delicate sorts by pinching off the young shoot, when an inch or two high. Creepers, climbers, and shrubs planted against walls or trellises, either on account of their rarity, delicacy, or to conceal the object against which they are placed, require different degrees of training; those which attach themselves naturally, as the ivy, merely require to be occasionally guided so as to induce a regular distribution of their shoots; the others must be treated like fruit-trees, training thinly, if blossoms are the object; and rather thicker, if a mass of foliage be what is chiefly wanting. "Edgings of all sorts," Marshall observes, "should be kept in good order, as having a singularly neat effect in the appearance of a garden. The dead edgings will sometimes, and the live edgings often, want putting to rights; either cutting, clipping, or making up complete. Where there are no edgings, or but weak ones, let the earth bordering on the walks be kept firm, and now and then worked up by line in moist weather, beating it smooth with the spade."

Alpine plants require protection from the cold, by covering with snow, or by hand-glasses, or frames during winter; and from heat, by screens to produce shade during summer. The roots of many sorts require to be protected by ashes, rotten tan, or litter, from frost, and the tops of others both shrubs and plants, to be guarded by fronds of fern, fir-branches, mats, or portable glass-cases, from rain, hail, and cutting winds. Great care must be taken to protect pots of plants from frost, by always keeping them plunged in earth or some nonconductor; for no state in which a plant can be placed is so obnoxious to the baneful influence of congelation as

that of being grown in a pot. Climbing plants require to be supported by poles or rods, as some sorts of honeysuckle, bignonia, aristolochia, &c.; by props, as pyramidal bell-flower, dahlia, euphorbia, &c. or by branches or spray, as the nasturtium and pea tribe. Much of the beauty of the flower-garden depends on the manner in which these operations are performed. The prevalent error consists in overdoing the thing, in employing too stout and too long rods or props, and too many thick tufty branches, instead of such as are free-grown and open. Watering must be liberally applied to almost every part of the flower-garden during summer, and in the evening; it increases the progress, and enlarges the parts of all vegetables; gives a fresh appearance to the soil as well as the plants, disperses their odours in the surrounding atmosphere, and tends to subdue various kinds of insects. Always water in the evening, as it has time to sink into the earth, and be imbibed by the flowers during the night. If it is done in the morning, the sun comes and drinks up the moisture before the plants derive any benefit, and the labour and water are thrown away.

The cutting off flower-stalks, decaying flowers, leaves, &c. is to be done in most cases immediately after the flowers are faded; but there are exceptions where the leaves on the lower part of flower-stems may be requisite to strengthen the root, and where, as in the case of stipa, some convallarias, eringoes, &c. the parts of the flower are persisting, or the fruit or seed pods are objects of beauty. The leaves of bulbous-rooted plants, and such others as are not prolific in foliage, should be carefully preserved till they have begun to decay; and, indeed, the base or rooted leaves of no plant whatever should be cut off till this is the case, unless for some particular object. Every single flower, as soon as the petals begin to droop, should be pinched off, and especially every flower of the double kind. Every rose, when it begins to droop, should be clipt off near to the foot-stalk of the one which is about to succeed it; and when the last of the corymb has done flowering, then the common foot-stalk should be cut off back to the first

strong leaf-bud: nothing is more unsightly in a flower-garden than rose-bushes where this has not been attended to.

Neatness is the dress and visage of gardening, and if necessary any where, is more especially so in the flower-garden. A gardener who pretends to manage a flower-garden without the most vigilant attention to this point, at all times, is unworthy the charge. The first thing is to have a quick intelligent eye, so as instantly to perceive what is wanting, and the second is to be possessed of that principle of activity which immediately sets about supplying the want. Many gardeners have certain times for *cleaning up*, &c. and will go fifty times past a weed, stone, dead leaf, or some such article, which disfigures or injures a scene, without removing it, merely because the time for cleaning, &c. has not come. This is most abominably formal conduct, deserving the severest reprobation. A gardener ought to have his eye, his head, his heart, his hand, his knife, and apron, ready for action at all times, places, and seasons, when within the precincts of his charge.

The changeable flower-garden. The essential principle of this garden consists in the power of changing its productions at pleasure, so that whenever any plant, or group of plants, begin to decay, they can be removed and their places supplied by others coming into bloom. To admit of this a large reserve nursery is requisite, in which the plants must be kept in pots, and removed and plunged in the borders as wanted. The Chinese, as Sir W. Chambers informs us, excel in this mode of gardening; and we have been informed by a traveller who has resided some time at Canton, that he has known a mandarin (or noble) have the whole furniture and style of his parterre changed in a single night, so as next morning to present not only a different description of flowers, shrubs, and dwarf-trees, but a different arrangement of the beds and compartments. Something of the same kind is practised in the gardens at the Tuilleries in Paris; in some of the imperial gardens at Petersburg, and in the vice-royal gardens of Monza. Gardens of this description admit of a very perfect arrangement

of the flowers, whether in the mingled manner, in select groups, or according to the natural method. It is only with such resources that a flower-gardener can "paint his way," as Sir W. Chambers says the Chinese artists do, "not scattering their flowers indiscriminately about their borders, but disposing of them with great circumspection along the skirts of the plantations, or other places where flowers are to be introduced. They reject all that are of a straggling growth, of harsh colors, and poor foliage, choosing only such as are of some duration, grow either large or in clusters, are of beautiful forms, well leaved, and of tints that harmonize with the greens that surround them. They avoid all sudden transitions, both with regard to dimension and color, rising gradually from the smallest flowers to the hollyhocks, pæonies, sun-flowers, carnation-poppies, and others of the boldest growth; and varying their tints by easy gradations, from white, straw-color, purple, and incarnate, to the deepest blues, and most brilliant crimsons and scarlets. They frequently blend several roots together, whose leaves and flowers unite, and compose one rich harmonious mass; such as the white and purple candytuft, larkspurs, and mallows of various colors, double poppies, lupins, primroses, pinks and carnations; with many more of which the forms and colors accord with each other; and the same method they use with flowering shrubs, blending white, red, and variegated roses together, purple and white lilacs, yellow and white jessamine, altheas of various sorts, and as many others as they can with any propriety unite. By these mixtures they increase considerably the variety and beauty of their compositions. In their large plantations, the flowers generally grow in the natural ground; but in flower-gardens, and all other parts that are highly kept, they are in pots, buried in the ground, which, as fast as the bloom goes off, are removed, and others are brought to supply their places; so that there is a constant succession for almost every month in the year; and the flowers are never seen but in the height of their beauty."

The botanic flower-garden being intended to display something of the extent and variety of the vegetable

kingdom, as well as its resemblances and differences, should obviously be arranged according to some system or method of study. In modern times, the choice is almost limited to the artificial system of Linnæus, and the natural method of Jussieu, though Adanson has given above fifty-six different methods by which plants may be arranged. The latter has much the best effect in a garden, and corresponds better with culture. The former, though most convenient for the young student, yet by bringing plants together that have few or no obvious relations, it destroys that harmony which is so gratifying in viewing natural families. Whatever method is adopted, the plants may either be placed in regular rows, or each order may be grouped apart, and surrounded by turf or gravel. For a private botanic garden, the mode of grouping on turf is much the most elegant, and it has this advantage, that as the species belonging to the group are increased, it can be enlarged by appropriating a part of the turf, and any group containing few species, may be filled up with repetitions for effect. The groups may be of the most irregular outlines, and those which are to contain trees may be raised or lowered in surface, according as the species may be natives of hills or valleys, and the trees and plants so dispersed as that the former shall not conceal the latter, nor present a compact lumpish appearance at the edges, or in the outline against the sky. Rock-work may be introduced in groups, where there are many alpine to be grown; and bogs, ponds, and springs imitated in others destined for aquatics, &c. as far as consistent with botanical purposes. A gravel walk may be so contrived as to form a tour of all the groups, displaying them on both sides; in the centre, or in any fitting part of the scene, the botanic hot-houses may be placed; and the whole might be surrounded with a sloping phalanx of evergreen plants, shrubs, and trees. The plants in such a garden should generally be neatly, but inconspicuously named, or, at all events numbered; but naming is greatly to be preferred, as saving trouble to the spectator, and more inviting to the novice desirous of knowledge. It is hardly necessary to observe that the above

modes of planting a flower-garden, are alike applicable to every form or style of laying out the garden or parterre, and that they do not interfere with any mode of enclosing or surrounding it, or of edging the walks.

Time of planting herbaceous plants. This is, in general, autumn and spring; but any perennial plant may be safely removed after it has done flowering or produced seed. With respect to biennials and annuals, they may be planted at almost any season before they have begun to throw up flower-stems. Biennials, however, are generally sown early in autumn in the flower-garden nursery, and transplanted either late in the same season or early in the following spring, to where they are to flower. Some annuals, such as larkspurs, euphorbia, mignonette, and other hardy kinds, flower best when sown in the fall.

TO CULTIVATE HAWTHORN HEDGES, OR LIVE FENCES.

Nothing can be more beautiful for a garden than a hawthorn hedge, well kept. Live fences have already become objects of serious importance.

The months of October, November, and December, will be the most eligible periods, in the southern states, for making this kind of fence; particularly as their frosts can do no injury to the ditch, and the roots will have an early establishment, and consequently be better prepared to encounter the summer heats. In the middle and eastern states, it is preferable doing this business in March, or early in April; as the ditch, in that case, would have one year's advantage of the frost, which in some kinds of soil would have a considerable effect, particularly in the first year, by swelling the earth in the face of the ditch, causing it to moulder down, and thereby expose the roots to the quicks; but this can be obviated by leaving a scarcement in the front, as hereafter directed.

Strong year-old quicks will answer very well for laying in the face of a ditch; but such as have had the advantage of two years' growth in nursery rows, after being transplanted when one year old from the seed

bed, will sooner form a good fence, or two years old plants from the seed bed will answer a very good purpose. Be particular in taking them up, not to injure their roots but as little as possible, and to sort them into three different lots, the smallest, larger, and largest, and also to plant each lot together; for the mixing of the small with the large is very injudicious, as the former in a little time would be smothered and overgrown by the latter, and vacancies consequently formed in the hedge.

Previous to planting, prune off the extremities of any long, straggling, and wounded roots, and also cut off the heads of the plants about seven inches above the earth-mark where they stood in the ground, and likewise any side branches that remain; let no consideration prevent your doing this, for on it depends much of your success.

Having your plants in readiness, and dressed in this manner, lay them by the heels in the earth, to be taken up as wanted, lest their roots should become dry, and be injured thereby. Then proceed to form your ditch, which should be four feet wide at least, at top, narrowing with a gentle slope on each side towards the bottom, to the perpendicular depth of two feet and a half, where it should be one foot wide. The more your ground is subject to slip by heavy rains, the greater slope must be given to the bank side.

Begin by cutting the surface sod of the ditch into squares of convenient size, and about three inches deep, having previously lined out and cut both sides with a spade, sloping inwards as above intimated, and lay a row of them, with the grassy surface under, six inches inward from the edge on the bank side; lay on the top of this row of sods, two inches of the loose and mellow earth, that is, the best the ditch affords, and also a quantity of it behind them, for about eighteen inches or two feet, breaking it very fine with the spade; on this lay your quicks, nearly in a horizontal manner, their tops being a little elevated, and at the distance of six inches one from the other, and so far in, that three or four inches of their tops may remain uncovered when the

ditch is finished. Spread the roots to advantage, and cover them well with the mouldy earth that dropped from the surface sod: this is necessary in order to give their roots the advantage of the best soil, and should on no account be neglected. Then proceed to finish your ditch and bank, laying the remainder of your surface sods in front of the bank, as you had done with the first row, giving it exactly a similar slope to that of the ditch, and the whole bank such a form, as if it was taken up at once out of the ditch, and turned upside down. The scarcement left in front, throws the bank so far back, as not to bear heavily on the side of the ditch to press it down, and it also will receive and retain a considerable portion of the rain that slides down along the surface of the bank, by which means the earth in front will be kept in a more moist state than if no such thing was left.

Were you to lay in two rows of quicks in the front, the second eight or nine inches above the first, and the plants in each row nine or ten inches distant, placing those of the upper opposite the intervals of the lower, it would be the most effectual method of making a better and more immediate fence. A very slight paling on the top of the bank, that will defend the quicks for three years, will be sufficient, and if the land in front is not in cultivation, but under stock, a similar fence may be necessary to prevent their going into the ditch, and reaching the plants. But if you take particular care to keep them constantly weeded for the first two years, which is absolutely necessary, or all is lost labour, they will have the less inducement to approach them.

Preparation of Hawthorn Seed for the raising of Thorn Quicks.—When you collect the seed in autumn, mix them with equal quantities of light sandy earth, and lay them in that state in a narrow sloping ridge, tapering at the top, in a dry part of your garden, where they will not be disturbed by hogs; cover them with about two inches of light loose earth; in April following turn them over, covering them as before; repeat this process in July and August, by which the seed will be prepared for vegetation. A trench must then be cut around this ridge, to prevent any water from lodging around the seed.

Your seed being prepared as above, make ready a piece of good rich ground. Early in the spring sow your seed pretty thick, to allow for imperfect seeds, on beds about four feet wide, with an alley between each row: cover the seed three quarters of an inch.

A CALENDAR,

Pointing out the most important duties of the gardener in each month of the year, and the vegetables to be attended to during the periods mentioned.

The object of this calendar is merely to give brief intimations of work to be performed in a garden, together with some approximation to the time of year in which it should be accomplished.

No precise time can be fixed which will suit the climate in all the states. These directions are intended for the middle States, and particularly about the latitude 40° N. Allowance can be made for elevation of site, as well as, for situation North or South of that degree, but it is not possible, perhaps, to state what that allowance should be with any degree of precision.

JANUARY.

But little can be done this month, except getting poles for pease and beans. Beds for forcing cucumbers, melons, &c. may be prepared.

FEBRUARY.

Take out your manure and leave it in heaps—burn haum—clean seed—get and repair tools—prepare materials for hot beds—clear your trees of moss and mice, and give them a coat of lime; sow asparagus—sow for transplanting, on hot beds, radishes, carrots, salads, pease and beans, protect vegetating plants by old litter, mats, barks, &c.

MARCH.

Sow lettuce in open ground and in vacant places among the rows of other plants, where it can be pulled

out before they need the room. Early pease and radishes cannot be planted too soon after the frost is out. Plant cabbage, cucumber, melon, squash, &c. in hot beds—dress borders; clean, re-lay, or make new gravel walks, turn compost, dress asparagus and make new beds, set out cabbage stumps for seed, salad, and greens; sow cress, mustard, and radish for salad once a fortnight; plant celery, artichoke, and horse radish.

APRIL.

Sow artichokes, asparagus, beans, beets, broccoli, cucumbers in hot beds, cauliflower, cabbage in a warm border, carrots, celery, cress, lettuce, mustard, nasturtium, onions, parsley, parsneps, pepper, pease, sweet potato in hot beds, radishes, rhubarb, salsify, sea kale, spinage, squashes, and turnips for early and garden crops.

For particular directions for cultivating the above named or any other vegetables mentioned in this calendar, see the preceding pages where they are alphabetically arranged. The precise time in the month in which they ought to be sown is there specified. Propagate fruit trees in this month.

MAY.

Again plant cucumbers, melons, and squashes; plant corn, pumpkins, gourds and beans, having the poles set first; weed advancing crops; transplant radishes for seed; weed, thin, and transplant lettuce, and sow more seed; sow other small salads; plant pease twice this month; prune fruit trees; sow borecole, broccoli, if not sown last month, beets do., Brussels sprouts; transplant or prick out cauliflowers, do. cabbage plants; plant cucumbers again; transplant egg plants and lettuce; plant okra; sow pease for second crops, tomatoes, and turnips.

JUNE.

Keep all your plants clean and well watered if necessary; plant cucumbers and melons for pickling; plant

more potatoes, pease, beans, and salads; plant out cabbage for winter; pick off overloading fruit.

JULY.

Clean all your vacant ground, where your early crops were, to plant for fall and winter supplies; sow salads every eight or ten days, in shady places at this season; sow turnips any time this month, and to fifteenth of August; sow radish, lettuce, spinage, and cabbage for fall greens; collect ripe seeds; let them remain on the stems pulled up till dry; water thirsty plants; bud or inoculate fruit trees.

AUGUST.

Keep all clean of weeds; remove haum to compost beds; cut such herbs as are in flower, that you want to save for winter use, or for distilling; dry them in the shade; keep dung hills and compost heaps free from weeds, to prevent their being filled with seeds. Inoculate or bud, if the bark still slips; sow onions to stand over winter.

SEPTEMBER.

Gather seeds as they ripen; earth up celery if you have any; sow radishes; pull ripe onions; the last of this month transplant perennials; defend your grapes from wasps by hanging vials of honey and water among them; clear your seed beds and young plantations of weeds; gather your cucumbers and mangoes for pickles before they spot.

OCTOBER.

Set your cabbage plants of last month's sowing in a warm sheltered bed, to stand through the winter. The sun must not shine on them when frozen; protect them in the winter, by glasses, mats, or boards, but let them have air in mild weather. When asparagus turns yellow, cut them off close to the ground, and carry off the branches; cover them with old litter; plant out seed onions; sow rhubarb and sea-kale; they will be up in

April; manure, dig up, and trench vacant ground; clean old strawberry beds; cut off the runners close to the plants, and apply a slight dressing of proper compost.

NOVEMBER.

“Gather your winter fruits, not forgetting your squashes; sow rhubarb, sea-kale, skirret, parsneps; manure and trench your ground for early spring crops; sow early pease if you can protect them from the mice; plant seeds of fruit trees; lay a good coating of litter over the roots of choice trees and shrubs.”

DECEMBER.

“If the season permits, do which was directed last month and remains undone; collect all your old sticks and poles, and lay them up carefully; procure stakes and other materials which may be wanted in a more busy season.

DIRECTIONS FOR CULTIVATING FRUITS AND FRUIT TREES.

“All our garden fruits are but ameliorated varieties of such as are wild. The amelioration has resulted from human skill, time and accident; and being so produced can only by art be continued. Hence the two great operations for procuring and perpetuating improved varieties of fruits are, amelioration and propagation.

“Amelioration ‘consists either in acquiring new or improved varieties of fruit, or increasing their good qualities when acquired. There is in all beings a disposition to deviate from their original nature when cultivated, or even in a wild state. But this disposition is so strong in some as to render them particularly adapted to become subject to domestication: for instance, the dog, the pigeon, and the barn-yard fowl are cases in which this tendency is most strongly marked in animals; and domesticated fruits are a parallel case in the vegetable world.

‘Cultivators increase this disposition chiefly in two ways; either by constantly selecting the finest existing

varieties for seed, or by intermixing the pollen and stigma of two varieties for the purpose of procuring something of an intermediate nature. The power of obtaining cross-bred varieties at pleasure, has only existed since the discovery of sexes in plants. In selecting seed from the finest existing varieties, we should, moreover, take care to select it from the handsomest, largest and most perfectly ripened specimens of those varieties; for "a seedling plant will always partake more or less of the character of its parent, the qualities of which are concentrated in the embryo, when it has arrived at full maturity." Now, if the general qualities of a given variety are concentrated in the embryo under any circumstances, it is reasonable to suppose that they will be most especially concentrated in a seed taken from that part of a tree in which its peculiar good qualities reside in the highest degree. For instance, in the fruit of an apple, growing upon a north wall, there is a smaller formation of sugar than in the same variety growing on a south wall; and it can be easily understood that the seed of that fruit, which is itself least capable of forming saccharine solutions, will acquire from its parent a less power of the same nature than if it had been formed within a fruit in which the saccharine principle was abundant. It should, therefore, be always an object with a gardener, in selecting a variety to become the parent of a new sort, to stimulate that variety by every means in his power to produce the largest and most fully ripened fruit that it is capable of bearing. The importance of doing this is well known in regard to melons and cucumbers, and also in preserving fugitive varieties of flowers; but it is not generally practised in raising fruit trees."

Cross-bred varieties.—“The power of procuring intermediate varieties by the intermixture of the pollen and stigma of two different parents is, however, that which most deserves consideration. We all know that hybrid plants are constantly produced in every garden, and that improvements of the most remarkable kind are yearly occurring in consequence. All cases, however, of cross-fertilization are subject to “a practical conse-

quence of great importance," namely, that "the new variety will take chiefly after its polleniferous or male parent, and that at the same time it will acquire some of the constitutional peculiarities of its mother. The limits within which experiments of this kind must be confined are, however, narrow. It seems that cross-fertilization will not take place at all, or very rarely, but between different species, unless these species are nearly related to each other, and that the offspring of the two distinct species is itself sterile, or, if it possesses the power of multiplying itself by seed, its progeny returns back to the state of one or other of its parents.

'Hence it seldom or never has happened that domesticated fruits have had such an origin. We have no varieties raised between the apple and the pear, or the quince and the latter, or the plum and cherry, or the gooseberry and currant. On the other hand, new varieties, obtained by the intermixture of two pre-existing varieties, are not less prolific, but on the contrary often more so than either of their parents; witness the numerous sorts of Flemish pears, which have been raised by cross-fertilization from bad bearers within the last twenty years, and which are the most prolific fruit trees with which gardeners are acquainted; witness also Mr. Knight's cherries, raised between the May duke and the graffion, and Eve's golden drop plum, raised from the green gage fertilized by the yellow magnum bonum. It is, therefore, to the intermixture of the most valuable existing varieties of fruit that gardeners should trust for the amelioration of their stock.'

To cause bad bearers to be prolific, the means are, '1. By ringing the bark. 2. By bending branches downwards. 3. By training; and 4. By the use of different kinds of stocks. All these practices are intended to produce exactly the same effects by different ways. Whatever tends to cause a rapid diffusion of the sap and secretions of any plant, causes also the formation of leaf buds instead of flower buds; and on the contrary, whatever tends to cause an accumulation of sap and secretions has the effect of producing flower buds in abundance.' Ringing, by tending to prevent

the return of sap to the part below the ring, also tends to cause the desired accumulation of sap in the part above the ring.

Bending down the branches effects the same accumulation with more certainty. When branches are in their natural or erect position, the fluids are diffused through their vessels or tissue uninterruptedly and rapidly; but by bending down the branches, the vessels become more or less compressed, and contribute to the accumulation of the juices or sap, by preventing its rapid diffusion. Training, as branches in this process are usually bent, effects the same object in the same manner; as well as by fixing the branches, and so preventing their being agitated by winds, as this agitation 'is known to facilitate the movement of the fluids.'—Nor is the influence of the stock of an essentially different nature. In proportion as the scion and the stock approach each other closely in constitution, the less effect is produced by the latter; and on the contrary, in proportion to the constitutional difference between the stock and the scion is the effect of the former important. Thus when pears are grafted or budded on the wild species; apples upon crabs, plums upon plums, and peaches upon peaches or almonds, the scion is, in regard to fertility, exactly in the same state as if it had not been grafted at all; while on the other hand, a great increase of fertility is the result of grafting pears upon quinces, peaches upon plums, apples upon white thorn, and the like. In the latter cases, the food absorbed from the earth by the root of the stock is communicated slowly and unwillingly to the scion; under no circumstances is the communication between the one and the other as free and perfect as if their natures had been more nearly the same; the sap is impeded in its ascent, and the proper juices are impeded in their descent; whence arises that accumulation of secretion which is sure to be attended with increased fertility.

The fluid or sap collected by the roots, when elaborated in the leaves, is so modified by the combined action of air, light and evaporation, as to acquire the peculiar character of the final secretions of the indi-

vidual from which it is formed. 'From these secretions,' as discharged by the foliage into the system of the plant, 'the fruit has the power of attracting such portions as are necessary for its maturation. Hence it follows, that the more we can increase the peculiar secretions of a plant, the higher will become the quality of the fruits and *vice versa*. Pruning and training, and the exposure of branches to the most light in the sunniest aspects, promote the former effect.'

The next subject to be considered is, 'the mode of multiplying improved varieties of parts, so as to continue in the progeny exactly the same qualities, as existed in the parent.' Seeds will not perpetuate a variety undeviatingly; buds will. 'A plant is really an animated body, composed of infinite multitudes of systems of life; all indeed, united in a whole, but each having a power of emitting descending fibres in the form of roots, and also of ascending in the form of stem. The first of these buds is the embryo [in a seed;] the others are subsequently formed on the stem emitted by the embryo. As these secondary buds develop, their descending roots combine and form the wood, their ascending stems give rise again to new buds. These buds are all exactly like each other; they have the same constitution, the same organic structure, and the individuals they are capable of producing are, consequently, all identically the same; allowance of course being made for such accidental injuries or alterations as they may sustain during their subsequent growth. It is upon the existence of such a remarkable physiological peculiarity in plants that propagation entirely depends; an evident proof of which may be seen in this circumstance: take a cutting of a vine consisting of the space which lies between two buds, an internodium, as botanists would call the piece, and no art will succeed in ever making it become a new plant, however considerable the size of the internodium may be. But, on the other hand, take the bud of a vine, without any portion of the stem adhering to it, and it will throw out stem and root, and become a new plant immediately.' The various modes of artificial propa-

gation, such as increasing by eyes, striking from cuttings, laying, budding and grafting, 'all consist in the application of these principles under various forms.'—Increasing by eyes or buds is illustrated by instances of the vine. Striking by cuttings consists in placing a stem, bearing more buds than one, 'in circumstances fit for the continuance of life;' and this method has an advantage over propagation by single buds, as 'the stem of the cutting forms an important reservoir of nutriment' for the buds it bears, until they can emit roots into the soil to cater for themselves. That bud which is nearest the bottom of the cutting emits its roots 'first into the earth,' and a 'good operator always takes care that the lower end of his cutting is pared down as close to the base of the bed as may be practicable, without actually destroying any part of the bud itself: by this means the first emitted roots, instead of having to find their way downwards between the bark and wood, strike at once into the earth, and become a natural channel by which nutriment is conveyed into the general system of the cutting.'

Laying is nothing but striking from cuttings, that are still allowed to maintain their connexion with the mother plant, by means of a portion, at least of their stem. Tongueing the layer, 'has the effect of enabling the roots to be emitted into the soil through the wound more readily than if they had to pierce through the bark.'

Budding and Grafting.—Budding differs from grafting in this, that a portion of the stem is not made to strike root on another stem; but that on the contrary, a bud deprived of all trace of the woody part of a stem is introduced beneath the bark of the stock, and there induced to strike root. 'In performing either of these operations, the great point to be attended to is to secure the exact contact of similar parts.'

Transplanting.—The success of this important operation, the writer conceives, may be proved to depend exclusively upon these two conditions: 1. The preservation of the spongioles of the roots; and 2. The prevention of excessive evaporation. The spongioles are the extremities of the fibres, and consist of bundles

of vessels surrounded by cellular tissue in a very lax spongy state. 'Plants absorb all or nearly all of their fluids through these spongioles, and, as the latter are exceedingly delicate in their organization, their destruction will be effected in exact proportion to the violence or carelessness with which their transplantation is performed. 'It is because of the security of the spongioles from injury, when the earth is undisturbed, that plants reared in pots are transplanted with so much more success than if taken immediately from the soil.' As every fibre is terminated by a spongiole, cutting through the roots of large trees to induce the formation of fibres, the year previous to removing them, contributes to successful transplanting. 'When destroyed, the spongioles are often speedily replaced, particularly in orchard trees, provided a slight degree of growth continues to be maintained. This is one of the reasons why trees removed in October succeed better than if transplanted at any other time. The first impulse of nature, when the tree finds itself in a new situation, is to create new mouths by which to feed, when the season for growing again returns."

SHORT DIRECTIONS FOR TRANSPLANTING.

Food is as necessary to the health and growth of plants as it is to animals. The best food for plants is rich, pulverised earth, or rather the vegetable matter which it contains. That your trees and shrubs may live and thrive, proceed as follows: Dig for your trees holes at least three feet in diameter, and eighteen inches deep, and for shrubs a proportionate size and depth, throwing away the lower spit of earth. Then fill up the hole to a proper height for setting the tree, with rich surface earth, or perfectly rotted manure, blended with four out of five parts of earth. Set your tree, and cover with surface soil, treading down when the roots are covered with earth. See that the roots are trimmed of all bruised and broken parts; that they are separately extended in their natural direction; that fine earth every where comes in contact with them. A

potato or two, or a gill of flaxseed or oats, may be advantageously placed in the hole before the tree is set, and a pail of water turned in after the hole is two thirds filled. The rich earth affords nutritive pasture for the young roots to range in: the potatoes, &c. keep the ground loose and moist, and enable them to roam freely; and the water brings the earth in contact with the roots, and prevents them from becoming mouldy. Keep the ground free of grass as far as the roots extend; for these exhaust the moisture and nutriment necessary to the plant, and exclude from the roots air and heat, the indispensable agents to vigorous growth. Treat your trees as you would favorite corn hills which you wish to make the most of, except give them no unrotted dung. Washing with a strong ley in May will destroy insects, and promote the health and vigor of your trees.

To persons living remote, or who are unable to obtain their trees for *early* spring planting, we recommend that they procure them in the autumn, and *lay them in by the heel*, as nurserymen technically term it, which is merely to dig a trench on a dry piece of ground, laying the earth on one side—the trench wide enough to contain the roots; put the roots into this, close together, letting the stocks rest in an inclined position upon the bank of earth, and then cover the roots and a part of the stocks with earth. In this way they escape injury from the frosts of winter, and are in readiness for early planting in the spring. Besides, better plants are generally obtained in the autumn than in the spring, after nurseries have been culled.

TO MANAGE ORCHARD GROUNDS.

“The whole ground of an orchard should be dug in the autumn, and laid up in a rough state for the winter, giving it as much surface as possible in order that the weather may fully act upon and meliorate the soil; thus following it as far as the case will admit. Observe to dig carefully near to the trees, and so as not to hurt their roots and fibres. If the soil be shallow, and if

these lie near to the surface, it would be advisable to dig with a fork, instead of the spade.

Crop to within two feet of the trees the first year; a yard the second; four feet the third, and so on, until finally relinquished; which, of course, would be against the eighth year, provided the trees were planted at 30 or 40 feet apart, with early bearing sorts between. By this time, if the kinds have been well chosen, the temporary trees will be in full bearing, and will forthwith defray every necessary expense.

TO PRUNE TREES.

Very few persons seem to be aware of the importance of giving proper form to the young tree, or mending or improving its shape, at a later period. In the peach it is ruinous, sooner or later, to encourage two or more leading and principal branches, from the main stem; let them grow ever so straight and upright, they constantly recede by the pressure of repellant branches, and by the weight of fruit; until, after having nursed them to maturity, on the first windy day, you have the mortification to find it split at the crotch, and one or both branches ruined, perhaps at the moment of the ripening of the fruit.

The peach is peculiarly liable to this misfortune, as the seam at the crotch adheres with less tenacity than any other tree cultivated.

The same doctrine holds good with the plum and nectarine, but with less force, and in fact, there is but one shape that is to be tolerated, with trees that are allowed their full growth, and not restrained, or trained in any way; and that form is a straight centre stem, from the root to the terminate bud, with branches alternately projecting at judicious distances, both around the circumference, and the whole line of ascent, allowing no one to gain the advantage of another in excess, but by proper retarding or encouragement, so to manage, as they shall present a cone, beautiful in shape, and strong to resist the wind, rains, and heavy weights of foliage and fruit.

Quince trees, by proper attention, may be made to have straight handsome bodies, and fine expanding regular tops, instead of the crooked, craggy, sprawling bushes, so generally cultivated.

It is also a great mistake to trim the stems of young trees too high, causing them to shoot up to premature heights, become top-heavy, and liable to be blown over, or badly leaned from their perpendicular and true position; which causes them to need staking, and tying, whereby they are apt to become chafed, and frequently ruined.

Trees in town gardens, which are situated between high houses and barns, are peculiarly liable to misfortune by wind, which is caused to whistle, whirl and eddy about with such force, as often to do great damage; in all such cases they should be allowed to send out limbs lower down, in regular order, with a straight centre, and handsome shape.

When peach trees get large and over-grown, or when they are apparently going backward from age, they can again be renewed by cutting off the whole top, at the collar next the roots, or at the first branching limbs, when a great quantity of shoots will put out and form handsome clumps, and bear well; indeed it is the Pennsylvania method of serving trees for the first bearing, which for seedling kinds do well; cultivated kinds should be cut above the graft. Prune all trees at the opening of the bud, and if you wish to be nice about it, cover the cut with grafter's wax, tar or oil paint.

GRAFTING, OR ENGRAFTING.

The following directions for grafting, are given by Dr. Deane, in his valuable *Georgical Dictionary*:

The methods of grafting are various. The first, which is termed *Rind* or *Shoulder grafting*, is seldom practised but on large trees, where either the head or large branches are cut off horizontally, and two or more scions put in, according to the size of the branch, or stem; in doing this the scions are cut flat on one side, with a shoulder to rest upon the crown of the stock; then the

rind of the stock must be raised up, to admit the scion between the wood and the bark of the stock, which must be inserted about two inches, so as that the shoulder of the scion may meet, and closely join the crown of the stock; and after the number of scions is inserted, the whole crown of the stock should be well clayed over, leaving two eyes of the scions unconnected therewith, which will be sufficient for shooting.

The next method is termed Cleft or Stock grafting; this is practised upon stocks or trees of a smaller size, and may be used with success where the rind of the stock is not too thick, whereby the inner bark of the scion will be prevented from joining to that of the stock. This may be performed on stocks, or branches, that are more than one inch in diameter: The head of the stock, or branch, must be cut off, with a slope, and a slit made the contrary way, in the top of the slope, deep enough to receive the scion, which should be cut sloping like a wedge, so as to fit the slit made in the stock; being careful to leave that side of the wedge which is to be placed outward much thicker than the other. And in putting the scion into the slit of the stock, there must be great care taken to join the rind of the scion to that of the stock; for if these do not unite the grafts will not succeed.

A third method which is termed Whip, or Tongue grafting, is performed on small stocks by cutting off the head of the stocks sloping; then there must be a notch made in the slope toward the upper part downward, a little more than half an inch deep, to receive the scion, which must be cut with a slope upwards, and a slit made in the slope like a tongue, which tongue must be inserted into the slit made in the slope of the stock, so as that the two rinds of both scion and stock may be equal and join together exactly. Then there should be a ligature to fasten the scion, so that it may not easily be displaced.

INOCULATING, OR BUDDING.

“This is commonly practised,” says Mr. Miller, “upon all sorts of stone fruit in particular, such as peaches,

nectarines, cherries, plums, &c. as also upon oranges and jasmines, and is preferable to any sort of grafting. The method of performing it is as follows: You must be provided with a sharp penknife, having a flat haft, (the use of which is to raise the bark of the stock to admit the bud,) and some sound bass mat, which should be soaked in water, to increase its strength, and make it more pliable; then having taken off the cuttings of the tree you are to propagate, you should choose a smooth part of the stock about five or six inches above the surface of the ground, if designed for dwarfs; but if for standards, they should be budded six feet above ground; then with your knife make a horizontal cut across the rind of the stock, and from the middle of that cut make a slit downwards about two inches in length, so that it may be in the form of T; but you must be careful not to cut too deep, lest you wound the stock. Then having cut off the leaf from the bud, leaving the foot stock remaining, you should make a cross cut about half an inch below the eye, and with your knife slit off the bud, with part of the wood to it. This done, you must, with your knife pull off that part of the wood which was taken with the bud, observing whether the eye of the bud be left to it or not, (for all those buds which lose their eyes in stripping should be thrown away, being good for nothing.) Then, having gently raised the bark of the stock where the cross incision was made, with the flat haft of your penknife, cleave the bark from the wood, and thrust the bud therein, observing to place it smooth between the rind and the wood of the stock, cutting off any part of the rind belonging to the bud, which may be too long for the slit made in the stock: And so having exactly fitted the bud to the stock, you must tie them closely round with bass mat, beginning at the under part of the slit, and so proceed to the top, taking care that you do not bind round the eye of the bud, which should be left open.

“When your buds have been inoculated three weeks or a month, you will see which of them have taken: those of them which appear shrivelled and black being

dead, but those which remain fresh and plump you may depend are joined. At this time you should loosen the bandage, which, if not done in time, will pinch the stock, and greatly injure, if not destroy, the bud.

“The March following,” (perhaps April in this country,) “you must cut off the stock close to the bud, sloping it that the wet may pass off, and not enter the stock. To this part of the stock, left above the bud, it is very proper to fasten the shoot which the bud makes in summer, to secure it from being blown out; but this part of the stock must continue on no longer than until the bud has acquired strength to support itself, after which it must be cut off close above the bud that the stock may be covered thereby.

“The time for inoculating is from the middle of June to the middle of September, according to the forwardness of the season, and the particular sorts of trees to be inoculated, which may be easily known by trying the buds, whether they will come off well from the wood. But the most general rule is, when you observe the buds formed at the extremity of the same year’s shoots, which is a sign of their having finished their spring growth.”

METHOD OF FORCING FRUIT TREES TO BLOSSOM AND BEAR FRUIT.

With a sharp knife cut a ring round the limb or small branch which you wish should bear, near the stem or large bough where it is joined; let this ring or cut penetrate to the wood. A quarter of an inch from this cut, make a second like the first, encircling the branch like a ring a quarter of an inch broad between these two cuts. This bark, between these two cuts, must be removed clean down to the wood; even the fine inner bark, which lies immediately upon the wood, must be scraped away, until the bare naked wood appears, white and smooth, so that no connexion whatever remains between the two parts of the bark. The barking or girdling must be made at the precise time when, in all nature, the buds are strongly swelling, or about

breaking out into blossom. In the same year, a callous is formed at the edges of the ring, on both sides, and the connexion of the bark is again restored, without any detriment to the tree or the branch operated upon. By this simple operation, the following advantages will be obtained: 1. Every young tree of which you do not know the sort, is compelled to show its fruit, and decide sooner whether it may remain in its present state or require to be grafted. 2. You may thereby, with certainty, get fruit of a good sort, and reject the more ordinary. The branches so operated upon are hung full of fruit, while others, that are not ringed, often have none, or very little on them. This effect is explained from the theory of the sap. As this ascends in the wood and descends in the bark, the above operation will not prevent the sap rising into the upper part of the branch, but it will prevent its descending below this cut, by which means it will be retained in and distributed through the upper part of the branch in a greater portion than it could otherwise be, and the branch and fruit will both increase in size much more than those that are not thus treated. The twisting of a wire or tying a strong thread round a branch has often been recommended as a means of making it bear fruit. In this case, as in ringing the bark, the descent of the sap in the bark must be impeded above the ligature, and more nutritive matter is consequently retained, and applied to the expanding parts. The wire or ligature may remain in the bark.

Mr. Knight's theory of the motion of sap in trees, is, "that the sap is absorbed from the soil, by the bark of the roots, and carried upwards by the alburnum of the roots, trunk, and branches: that it passes through the central vessels into the succulent matter of the annual shoots, the leaf-stalk, and leaf; and that it is returned to the bark through certain vessels of the leaf-stalk, and descending through the bark, contributes to the process of forming the wood."

A writer in the *American Farmer* says, he tried the experiment of ringing some apple, peach, pear, and quince trees on small limbs, say from an inch to an inch and a

quarter in diameter. The result was, the apples, peaches, and pears were double the size on those branches than on any other part of the trees: in the quinces there was no difference. One peach, the heath, measured on a ringed limb, in circumference 11 1-4 inches round, and 11 3-4 inches round the ends, and weighed 15 ounces. The limbs above the ring have grown much larger than those below it.

[*Thacher's Orchardist.*

NEW MODE OF GRAFTING.

When the trees begin to show their fruit, (no matter what kind,) and it is evident that grafting must be resorted to, or we must patiently put up with an inferior kind; instead of cutting off the top, uncover the roots, and choosing the most thrifty one, make a slit in the bark, cut your scion off with a slope, and thrust it in and cover the roots with earth. It will take well, and grow some the first year, much more the next, and the third year the old stock may be cut away, and the growth from that time on will be very rapid, and soon form a good bearing tree.

TO RAISE APPLE TREES FROM CUTTINGS.

A horticulturist in Bohemia has a beautiful plantation of the best sort of apple-trees, which have neither sprung from seeds nor grafting. His plan is to take shoots from the choicest sorts, insert them into a potato, and plunge both into the ground, leaving but an inch or two of the shoots above the surface. The potato nourishes the shoot, whilst it pushes out roots, and the shoots gradually spring up and become a beautiful tree, bearing the best of fruit without requiring to be grafted.

THE QUICKEST WAY TO PROCURE GRAPES.

The quickest method of procuring grapes, is to graft into the body, near the ground, or which is preferable, into the roots of large vines. In the following year, if

the graft has taken, fruit will be produced. Thus every farmer, who has wild vines growing on his ground, may, by procuring cuttings of hardy foreign or native kind, and paying a little attention to the grafting and training, be soon and amply supplied with grapes for market and wine making.

PLASTER FOR TREES.

The cheapest and most suitable remedy for wounds upon trees, occasioned by pruning, is Spanish brown paint, a little thicker than painters generally use. Lay it on with a brush and take care to cover the wounded part thoroughly. This will effectually exclude the air and weather, and nature's healing process will soon perform the cure.

HOW TO PLANT FRUIT SEEDS.

Put peach, apricot, plum and cherry stones, and pear and quince seeds into the ground, two or three inches below the surface, cover them with earth, and then lay over them a course of well rotted manure. I have always succeeded in producing an abundant crop, except in one instance of planting of peach stones, and another of pear seeds; the non-success of the former I imputed to the dryness of the soil, and that of the latter to the destruction of the seed in the pumice, it having remained in barrels several days, and probably underwent some fermentation. I should advise the planting of fruit stones and seeds in a moist but not a wet soil.

TO DESTROY THE CATERPILLAR ON FRUIT TREES.

The honorable Timothy Pickering has communicated to the Massachusetts Agricultural Society an eligible method of exterminating caterpillars, more especially when their nests are constructed on the extreme branches of large trees not accessible by ladders. It consists of a brush made of hog's bristles introduced between two stiff wires, closely twisted, similar to the

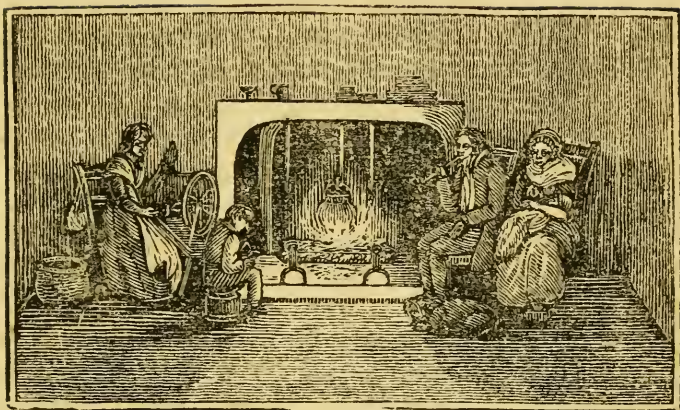
common brush for cleaning the inside of bottles. A piece of wire full one tenth of an inch in diameter, about three feet long, doubled, and leaving a small loop in the middle, is closely twisted for the length of about eight or ten inches from the loop; and then the bristles being introduced between the remainder of the two branches of the wire, and these closely twisted upon them, the bristles are immoveably fixed; and thus is formed, after being uniformly sheared, a cylindrical brush, about six inches long and two and a half in diameter. This brush is fastened to the end of a long pole, having a groove about seven or eight inches long at the small end, in which the twisted wire of the brush was laid and bound on with strings. In using the brush, press it on the nest, and turning the pole in the hand the web is entangled with the bristles and removed; or otherwise, you rub the fork of the limb inside and outside with the brush, when the nest and worms are surely killed or brought down. The pole may be longer or shorter according to the distance which you have to reach. Numerous other methods have been from time to time suggested for the destruction of these vermin, but they may be destroyed with great facility by a little industry with the hand or the brush, if repeated two or three times a week during their season. It has recently been ascertained that some of the insects or millers which deposit their eggs from which the caterpillar is produced, are left in the old nests after the caterpillars have deserted them in the month of June. The destruction of old nests therefore, and the insects contained in them, before they have time to deposit their eggs in August for the next year, will prove the most effectual method of destroying these troublesome vermin for all future seasons and eventually of annihilating the whole tribe.

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COOKERY.



GENERAL DIRECTIONS TO THE MISTRESS OF A FAMILY.

In the variety of female acquirements, though domestic occupations stand not so high in esteem as they formerly did, yet when neglected, they produce much human misery. There was a time when ladies knew nothing *beyond* their own family concerns; but in the present day, there are many who know nothing *about* them. Each of these extremes should be avoided: but is there no way to unite in the female character, cultivation of talents and habits of usefulness? Happily there are still great numbers in every situation, whose example proves that this is possible. Instances may be found of ladies in the higher walks of life, who condescend to examine the accounts of their house steward; and, by overlooking and wisely directing the expenditure of that part of their husband's income which falls under their own inspection, avoid the inconvenience of embarrassed circumstances.

If a lady has never been accustomed, while single, to think of family management, let her not upon that account fear that she cannot attain it; she may consult others who are more experienced, and acquaint herself with the necessary quantities of the several articles of

family expenditure, in proportion to the number it consists of, the proper prices to pay, &c. &c.

A minute account of annual income, and the times of payment, should be taken in writing; likewise an estimate of the supposed amount of each article of expense; and those who are early accustomed to calculations on domestic articles, will acquire so accurate a knowledge of what their establishment requires, as will give them the happy medium between prodigality and parsimony, without acquiring the character of meanness.

Many families have owed their prosperity full as much to the propriety of female management, as to the knowledge and activity of the father.

The following hints may be useful as well as economical:

Every article should be kept in the place best suited to it, as much waste may be thereby avoided. "Have a place for every thing, and keep every thing in its place."

Vegetables will keep best on a stone floor, if the air be excluded.—Meat in a cold dry place.—Sugar and sweetmeats require a dry place; so does salt.—Candles, cold, but not damp.—Dried meats, hams, &c. the same. All sorts of seeds for puddings, saloop, rice, &c. should be close covered, to preserve from insects; but that will not prevent it, if long kept.

Bread is now so heavy an article of expense, that all waste should be guarded against; and having it cut in the room will tend much to prevent it.—Since the scarcity in 1795 and 1800, that custom has been much adopted. It should not be cut until a day old. Earthen pans and covers keep it best.

Straw to lay apples on should be quite dry, to prevent a musty taste.

Basil, savory, or knotted marjorum, or thyme to be used when herbs are ordered; but with discretion, as they are very pungent.

Some of the lemons and oranges used for juice should be pared first to preserve the peel dry; some should be halved, and when squeezed, the pulp cut out, and the

outside dried for grating. If for boiling in any liquid, the first way is best. When these fruits are cheap, a proper quantity should be bought and prepared as above directed, especially by those who live in the country, where they cannot always be had; and they are perpetually wanted in cookery.

When whites of eggs are used for jelly, or other purposes, contrive to have pudding, custard, &c. to employ the yolks also. Should you not want them for several hours, beat them up with a little water, and put them in a cool place, or they will be hardened and useless.—It is a mistake of old, to think that the whites made cakes and puddings heavy; on the contrary, if beaten long and separately, they contribute greatly to give lightness, are an advantage to paste, and make a pretty dish beaten with fruit, to set in cream, &c.

If copper utensils be used in the kitchen, the cook should be charged to be very careful not to let the tin be rubbed off, and to have them fresh done when the least defect appears, and never to put by any soup, gravy, &c. in them, or any metal utensil; stone and earthen vessels should be provided for those purposes, as likewise plenty of common dishes, that the table-set may not be used to put by cold meat.

Tin vessels if kept damp, soon rust, which causes holes. Fenders, and tin linings of flower-pots, &c. should be painted every year or two.

Vegetables soon sour, and corrode metals and glazed red ware, by which a strong poison is produced. Some years ago the death of several gentlemen was occasioned at Salt-hill, by the cook sending a ragout to the table, which she had kept from the preceding day in a copper vessel badly tinned. Vinegar, by its acidity does the same, the glazing being of lead or arsenic.

The best way of scalding fruits, or boiling vinegar, is in a stone jar on a hot iron hearth: or by putting the vessel in a saucepan of water, called a waterbath.

If chocolate, coffee, jelly, gruel, bark, &c. be suffered to boil over, the strength is lost.

In the following and indeed all other receipts, though the quantities may be as accurately directed as possible,

yet much must be left to the discretion of the person who uses them. The different tastes of people require more or less of the flavor of spices, salt, garlic, butter, &c. which can never be ordered by general rules; and if the cook has not a good taste, and attention to that of her employers, not all the ingredients which nature and art can furnish, will give exquisite flavor to her dishes. The proper articles should be at hand, and she must proportion them until the true *zest* be obtained, and a variety of flavor be given to the different dishes served at the same time.

Those who require *maigre* dishes will find abundance in this work; and where they are not strictly so, by suet or bacon being directed into the stuffings, the cook must use butter instead thereof; and where meat gravies (or stock, as they are called) are ordered, those made of fish must be adopted.

TO CHOOSE MEATS.

Venison.—If the fat be clear; bright, and thick, and the cleft part smooth and close, it is young; but if the cleft is wide and tough, it is old.

Beef.—If the flesh of ox-beef is young, it will have a fine, smooth, open grain, be of good red, and feel tender. The fat should look white rather than yellow; for when that is of a deep color, the meat is seldom good: beef fed by oil cakes is in general so, and the flesh is flabby.

Veal.—The flesh of a bull-calf is the firmest, but not so white. The fillet of a cow-calf is generally preferred to the udder. The whitest is the most juicy, having been made so by frequent bleeding, and having had whiting to lick.

Mutton.—Choose this by the fineness of its grain, good color, and firm white fat.

Lamb.—Observe the neck of a fore quarter; if the vein is bluish, it is fresh; if it has a green or yellow cast, it is stale.

Pork.—Pinch the lean, and if young it will break. If the rind is tough, thick, and cannot easily be im-

pressed by the finger, it is old. A thin rind is a merit in all pork. When fresh, the flesh will be smooth and cool; if clammy, it is tainted.

Bacon.—If the rind is thin, the fat firm, and of a red tinge, the lean tender, of a good color, and adhering to the bone, you may conclude it good, and not old.

Hams.—Stick a sharp knife under the bone: if it comes out with a pleasant smell, the ham is good; but if the knife be daubed and has a bad scent, do not buy it.

Fowls.—The combs and legs are smooth when the fowl is young, and rough when it is old.

Geese.—The bills and feet of geese should be yellow and have but few hairs upon them. Their feet will be pliable when fresh or recently killed, and dry and stiff when they have been killed a long time.

Ducks.—The breast should be hard and plump, feet supple. The feet of a tame duck are yellowish, those of a wild one are reddish.

Pigeons.—They should be eaten while they are fresh; when they look flabby and discolored about the under part, they have been kept too long.

Partridges.—These birds have yellow legs, and a dark colored bill when young. They are not in season till after the first of September.

COOKING.

Cooking is effected by various methods, of which boiling is the most common, but the most objectionable; as it deprives flesh of its nutritious juice. A better mode of dressing animal food is *roasting*, by which its strength is less dissipated; because a crust is soon formed on its surface, that more effectually preserves the nutritive particles from evaporation. Hence one pound of roasted meat is in real nourishment, equal to double that quantity of boiled animal food.

Many substances, though possessed of salubrious qualities, are rendered unwholesome by the refinements of cookery. By compounding several incongruous ingredients to produce a poignant sauce, or rich soup,

the cook frequently forms compositions that are almost poisonous. Thus, high seasoning of every kind, pickles and the like, merely stimulate the palate, and cannot fail to injure the stomach. Hence, the plainest dishes are uniformly the most conducive to health, while they are most easily digested. This self-evident proposition is acknowledged by every reflecting person, but gives the least satisfaction to the epicure, who consults his taste before he appeals to his warped understanding.

Animal food is generally boiled in half open vessels, instead of which, close utensils only ought to be employed for that purpose. We therefore recommend the process called stewing; as it is not only the most wholesome mode of dressing meat, but at the same time well adapted to retain and concentrate the most substantial parts of animal food. The utility of preparing victuals after this method having been generally acknowledged, we shall pay particular attention to it.

Various other methods will also be given, to enable the cook to pursue the most convenient course.

TO BOIL MEATS, &c.

This most simple of culinary processes is not often performed in perfection, though it does not require so much nicety and attendance as roasting; to skim the pot well, and to keep it moderately boiling, and to know how long the joint requires, comprehends the most useful points of this branch of cookery. The cook must take especial care that the water really boils all the while she is cooking, or she will be deceived in the time. An adept cook will manage with much less fire for boiling than she uses for roasting, and to last all the time without much mending. When the water is coming to a boil there will always rise from the cleanest meat a scum to the top; this must be carefully taken off as soon as it appears, for on this depends the good appearance of a boiled dinner. When you have skimmed it well, put in a little cold water, which will throw up the rest of it. If let alone, it soon boils down and sticks to the meat, which, instead of looking white

and healthful, will have a coarse and uninviting appearance.

Many cooks put in milk to make what they boil look white, but this does more harm than good; others wrap the meat in a cloth; but if it is well skimmed it will have a much more delicate appearance than when it is muffled up.

Put the meat into cold water in the proportion of about a quart to every pound of meat; it should remain covered during the whole process of boiling. Water beyond what is absolutely necessary renders the meat less savoury and weakens the broth.

The water should be gradually heated according to the thickness, &c. of the article boiled; for instance, a leg of mutton of 10 lbs. weight should be placed over a moderate fire, which will gradually heat the water without causing it to boil, for about forty minutes. If the water boils much sooner, the meat will be hardened, and shrink up as if it were scorched. Reckon the time from its first coming to a boil; the slower it boils the tenderer, the plumper, and whiter it will be. For those who choose their food thoroughly cooked, twenty minutes to a pound will not be found too much for gentle simmering by the side of the fire. Fresh killed meat will take much longer time boiling than that which has been kept till what the butchers call ripe; if it be fresh killed it will be tough and hard if stewed ever so long, and ever so gently. The size of the boiling pots should be adapted to what they are to contain; in small families we recommend block tin saucepans, &c. as lightest and safest, taking care that the covers fit close, otherwise the introduction of smoke may be the means of giving the meat a bad taste. Beef and mutton a little underdone is not a great fault, but lamb, pork, and veal are uneatable and truly unwholesome, if not thoroughly boiled. Take care of the liquor in which poultry or meat has been boiled, as an addition of peas, herbs, &c. will convert it into a nourishing soup.

TO BAKE MEATS, &c.

This is one of the cheapest and most convenient ways of dressing a dinner in small families, and although the general superiority of roasting must be allowed, still certain joints and dishes, such as legs and loins of pork, legs and shoulders of mutton, and fillets of veal, will bake to great advantage, if the meat be good. Besides those joints above mentioned, we shall enumerate a few baked dishes which may be particularly recommended.

A pig when sent to the baker prepared for baking, should have his ears and tail covered with buttered paper, and a bit of butter tied up in a piece of linen to baste the back with, otherwise it will be apt to blister. If well baked it is considered equal to a roasted one.

A goose prepared the same as for roasting, or a duck placed upon a stand and turned, as soon as one side is done, upon the other, are equally good.

A buttock of beef, prepared as follows, is particularly fine: after it has been put in salt about a week, let it be well washed and put into a brown earthen pan with a pint of water; cover the pan tight over with two or three thicknesses of cap paper, and give it four or five hours in a moderately heated oven.

A ham, if not too old, put in soak for an hour, taken out and baked in a moderately heated oven, cuts fuller of gravy, and of a finer flavor than a boiled one.

Cod fish, haddock, and mackerel, should have a dust of flour and some bits of butter spread over them. Eels when large and stuffed, herrings and sprats, are put in a brown pan, with vinegar and a little spice, and tied over with paper.

A hare, prepared the same as for roasting, with a few bits of butter and a little milk, put into the dish and basted several times, will be found nearly equal to roasting: in the same manner legs and shins of beef will be equally good with proper vegetable seasoning.

TO ROAST MEATS, &c.

The first thing requisite for roasting is to have a strong steady fire, or a clear brisk one, according to the

size and weight of the joint that is put down to the spit. A cook, who does not attend to this, will prove herself totally incompetent to roast victuals properly. All roasting should be done open to the air, to ventilate the meat from its gross fumes, otherwise it will become baked instead of roasted. The joint should be put down at such a distance from the fire as to imbibe the heat rather quickly, otherwise its plumpness and good quality will be gradually dried up, and it will turn shrivelly, and look meagre. When the meat is first put down, it is necessary to see that it balances well on the spit, otherwise the process of cooking will be very troublesome. When it is warm, begin to baste it well, which prevents the nutritive juice escaping; and, if required, additional dipping must be used for that purpose.

As to sprinkling with salt while roasting, most able cooks dispense with it, as the penetrating particles of the salt have a tendency to draw out the animal juices; however, a little salt thrown on, when first laid down, is sometimes necessary, with strong meats. When the smoke draws towards the fire, and the dropping of the clear gravy begins, it is a sure sign that the joint is nearly done. Then take off the paper, baste well, and dredge it with flour, which brings on that beautiful brownness which makes roasted meats look so inviting.

With regard to the time necessary for roasting various meats, it will vary according to the different sorts, the time it has been kept, and the temperature of the weather. In summer, twenty minutes may be reckoned equal to half an hour in winter. A good skreen, to keep off the chilling current of air, is essentially useful.—The old housewife's rule is to allow rather more than a quarter of an hour to each pound, and in most instances it proves practically correct.

In roasting mutton or lamb, the loin, the chine, and the saddle, must have the skin raised and skewered on; and, when nearly done, take off this skin, and baste and flour to froth it up.

Veal requires roasting brown, and if a fillet or loin, be sure to paper the fat, that as little of it may be lost

as possible. When nearly done, baste it with butter and dredge with flour.

Pork should be well done. When roasting a loin, cut the skin across with a sharp knife, otherwise the crackling is very awkward to manage. Stuff the knuckle part with sage and onion, and skewer it up.—Put a little drawn gravy in the dish, and serve it up with apple sauce in a tureen. A spare-rib should be basted with a little butter, a little dust of flour, and some sage and onion shred small. Apple sauce is the only one which suits this dish.

Wild fowls require a clear brisk fire, and should be roasted till they are of a light brown, but not too much; yet it is a common fault to roast them till the gravy runs out, thereby losing their fine flavor.

Tame fowls require more roasting, as the heat is longer in penetrating; they should be often basted, in order to keep up a strong froth, and to improve their plumpness.

Pigs and geese should be thoroughly roasted before a good fire, and turned quickly.

Hares and rabbits require time and care, especially to have the ends sufficiently done, and to remedy that raw discolouring at the neck, &c. which proves often so objectionable at table.

TO REGULATE TIME IN COOKERY.

Mutton.—A leg of 8 lbs. will require two hours and a half. A chine or saddle of 10 or 11 lbs. two hours and a half. A shoulder of 7 lbs. one hour and a half. A loin of 7 lbs. one hour and three quarters. A neck and breast, about the same time as a loin.

Beef.—The sirloin of 15 lbs. from three hours and three-quarters to four hours. Ribs of beef from 15 to 20 lbs. will take three hours to three hours and a half.

Veal.—A fillet from 12 to 16 lbs. will take from four to five hours, at a good fire. A loin, upon the average, will take three hours. A shoulder from three hours to three hours and a half. A neck, two hours. A breast, from an hour and a half to two hours.

Lamb.—Hind quarter of 8 lbs. will take from an hour and three-quarters to two hours. Fore quarter of 10 lbs. about two hours. Leg of 5 lbs. from an hour and a quarter to an hour and a half. Shoulder, or breast, with a quick fire, an hour.

Pork.—A leg of 8 lbs. will require about three hours. Griskin, an hour and a half. A spare-rib of 8 or 9 lbs. will take from two hours and a half to three hours, to roast it thoroughly. A bald spare-rib of 8 lbs. an hour and a quarter. A loin of 5 lbs. if very fat, from two hours to two hours and a half. A sucking pig, of three weeks old, about an hour and a half.

Poultry.—A very large turkey will require about three hours; one of 10 lbs. two hours; a small one an hour and a half.

A full-grown fowl, an hour and a quarter; a moderate sized one an hour.

A pullet, from half an hour to 40 minutes.

A goose, full grown, from an hour and a half to two hours.

A green goose, 40 minutes.

A duck, full size, from 30 to 50 minutes.

Venison.—A buck haunch which weighs from 20 to 25 lbs. will take about four hours and a half roasting: one from 12 to 18 lbs. will take three hours and a quarter.

BEEF.

BEEF A-LA-MODE.

Choose a piece of thick flank of a fine heifer or ox—cut into long slices some fat bacon, but quite free from yellow; let each bit be near an inch thick; dip them into vinegar, and then into a seasoning ready prepared, of salt, black pepper, alspice, and a clove, all in a fine powder, with parsley, chives, thyme, savoury, and knotted marjorum, shred as small as possible, and well mixed. With a sharp knife make holes deep enough to let in the larding, then rub the beef over with the seasoning, and bind it up tight with tape. Set it in a well tinned pot over a fire or rather stove: three or

four onions must be fried brown and put to the beef, with two or three carrots, one turnip, a head or two of celery, and a small quantity of water, let it simmer gently ten or twelve hours, or till extremely tender, turning the meat twice.

Put the gravy into a pan, remove the fat, keep the beef covered, then put them together, and add a glass of port wine. Take off the tape, and serve with the vegetable: or you may strain them off, and send them up cut into dice for garnish. Onions roasted, and then stewed with the gravy, are a great improvement. A tea cup full of vinegar should be stewed with the beef.

A FRICANDEAU OF BEEF.

Take a nice bit of lean beef; lard it with bacon, seasoned with pepper, salt, cloves, mace, and alspice. Put it into a stew-pan with a pint of broth, a glass of white wine, a bundle of parsley, all sorts of sweet herbs, a clove of garlic, a shallot or two, four cloves, pepper and salt. When the meat is become tender, cover it close, skim the sauce well, and strain it, set it on the fire, and let it boil till it is reduced to a glaze. Glaze the larded side with this, and serve the meat on sorrel-sauce.

TO STEW A RUMP OF BEEF.

Wash it well, and season it high with pepper, Cayenne, salt, alspice, three cloves, and a blade of mace, all in fine powder. Bind it up tight, and lay it into a pot that will just hold it. Fry three large onions sliced, and put them to it, with three carrots, two turnips, a shallot, four cloves, a blade of mace, and some celery. Clover the meat with good beef broth, or weak gravy. Simmer it as gently as possible for several hours, till quite tender. Clear off the fat; and add to the gravy half a pint of port wine, a glass of vinegar, and a large spoon of catsup. Simmer half an hour, and serve in a deep dish.—Half a pint of table-beer may be added. The herbs to be used should be burnet, tarragon, parsley, thyme, basil, savoury, marjorum, pennyroyal, knotted

marjorum, and some chives, if you can get them, but observe to proportion the quantities to the pungency of the several sorts—let there be a good handful altogether.

Garnish with carrots, turnips, or truffles and morels, or pickles of different colors, cut small, and laid in little heaps separate: chopped parsley, chives, beet-root, &c. If, when done, the gravy is too much to fill the dish, take only a part to season for serving, but the less water the better: and to increase the richness, add a few beef bones and shanks of mutton in stewing. A spoonful or two of made mustard is a great improvement to the gravy.

TO STEW A BRISKET OF BEEF.

Put the part that has the hard fat into a stew pot with a small quantity of water; let it boil up, and skim it thoroughly; then add carrots, turnips, onions, celery, and a few pepper-corns. Stew it extremely tender; then take out the flat bones, and remove all the fat from the soup. Either serve that and the meat in a tureen, or the soup alone, and the meat on a dish, garnished with some vegetables. The following sauce is much admired served with the beef:—Take half a pint of the soup, and mix it with a spoonful of catsup, a glass of port wine, a teaspoonful of made mustard, a little flour, a bit of butter and salt; boil altogether a few minutes, then pour it round the meat. Chop capers, walnuts, red cabbage, pickled cucumbers, and chives or parsley, small, but in several heaps over it.

TO PRESS BEEF.

Salt a bit of brisket, thin part of the flank, or the tops of the ribs, with salt and saltpetre five days, then boil it gently till extremely tender; put it under a great weight, or in a cheese-press, till perfectly cold. It eats excellently cold, and for sandwiches.

TO MAKE HUNTER'S BEEF.

To a round of beef that weighs twenty-five pounds, take three ounces of saltpetre, three ounces of the

coarsest sugar, an ounce of cloves, a nutmeg, half an ounce of alspice, and three handfuls of common salt, all in the finest powder.

The beef should hang two or three days; then rub the above well into it, and turn and rub every day for two or three weeks. The bone must be taken out at first. When to be dressed, dip it into cold water, to take off the loose spice, bind it up tight with tape, and put it into a pan with a tea-cup full of water at the bottom, cover the top of the meat with shred suet, and the pan with a brown crust and paper, and bake it five or six hours.—When cold take off the paste and tape.

The gravy is very fine; and a little of it adds greatly to the flavor of any hash, soup, &c.—Both the gravy and the beef will keep some time.

AN EXCELLENT MODE OF DRESSING BEEF.

Hang three ribs three or four days; take out the bones from the whole length, sprinkle it with salt, roll the meat tight, and roast it. Nothing can look nicer. The above done with spices, &c. and baked as hunter's beef, is excellent.

TO COLLAR BEEF.

Choose the thin end of the flank of fine mellow beef, but not too fat; lay it into a dish with salt and salt-petre, turn and rub it every day for a week, and keep it cool. Then take out every bone and gristle, remove the skin of the inside part, and cover it thick with the following seasoning cut small:—a large handful of parsley, the same of sage, some thyme, marjorum, and pennyroyal, pepper, salt, and alspice. Roll the meat up as tight as possible, and bind it, then boil it gently for seven or eight hours. A cloth must be put round before the tape. Put the beef under a good weight while hot, without undoing it: the shape will then be oval. Part of a breast of veal rolled in with the beef, looks and eats very well.

BEEF STEAKS.

Should be cut from a rump that has hung a few days. Broil them over a very clear or charcoal fire: put into the dish a little minced challot, and a table spoonful of catsup: and rub a bit of butter on the steak the moment of serving. It should be turned often, that the gravy may not be drawn out on either side.

This dish requires to be eaten so hot and fresh done, that it is not in perfection if served with any thing else. Pepper and salt should be added when taking it off the fire.

BEEF STEAKS AND OYSTER SAUCE.

Strain off the liquor from the oysters, and throw them into cold water, to take off the grit, while you simmer the liquor with a bit of mace and lemon-peel; then put the oysters in, stew them a few minutes, add a little cream, if you have it, and some butter rubbed in a bit of flour; let them boil up once, and have rump-steaks well seasoned and broiled, ready for throwing the oyster sauce over, the moment you are to serve.

STEWED BEEF STEAKS.

Beat them with a little rolling pin, flour and season, then fry them with sliced onions, of a fine light brown, lay the steaks into a stew-pan, and pour as much boiling water over them as will serve for sauce: stew them very gently half an hour, and add a spoonful of catsup, or walnut liquor, before you serve.

ITALIAN BEEF STEAKS.

Cut a fine large steak from a rump that has been well hung, or it will do from any tender part: beat it, and season with pepper, salt, and an onion: lay it into an iron stew-pan that has a cover to fit quite close, and set it by the side of the fire without water. Take care it does not burn, but it must have a strong heat: in two or three hours it will be quite tender, and then serve with its own gravy.

BEEF COLLOPS.

Cut thin slices of beef from the rump, or any other tender part, and divide them into pieces three inches long; beat them with a blade of a knife, and flour them. Fry the collops quick in butter two minutes, then lay them into a small stew-pan, and cover them with a pint of gravy; add a bit of butter rubbed in flour, pepper, salt, the least bit of shallot, shred as fine as possible, half a walnut, four small pickled cucumbers, a tea-spoonful of capers cut small. Take care that it does not boil, and serve the stew in a very hot covered dish.

BEEF PALATES.

Simmer them in water several hours, till they will peel; then cut the palates into slices, or leave them whole, as you choose; and stew them in a rich gravy till as tender as possible. Before you serve, season them with Cayenne, salt, and catsup. If the gravy was drawn clear, add also some butter and flour.

If to be served white, boil them in milk, and stew them in fricassee sauce, adding cream, butter, flower and mushroom-powder, and a little pounded mace.

BEEF CAKES FOR A SIDE DISH OF DRESSED MEAT.

Pound some beef that is underdone with a little fat bacon, or ham; season with pepper, salt, and a little shallot, or garlic; mix them well, and make it into small cakes, three inches long, and half as wide and thick; fry them in a light brown, and serve them in a good thick gravy.

TO POT BEEF.

Take two pounds of lean beef, rub it with saltpetre, and let it lie one night; then salt with common salt, and cover with water four days in a small pan. Dry it with a cloth, and season with black pepper; lay it into as small a pan as will hold it, cover it with coarse paste, and bake it five hours in a very cool oven. Put no liquor in.

When cold, pick out the strings and fat; beat the meat very fine with a quarter of a pound of fine butter, just warm; but not oiled, and as much of the gravy as will make it into a paste; put it into very small pots, and cover them with melted butter.

TO DRESS THE INSIDE OF A COLD SIRLOIN OF BEEF.

Cut out all the meat, and a little fat, into pieces as thick as your finger, and two inches long: dredge it with flour; and fry in butter, of a nice brown, drain the butter from the meat, and toss it up in a rich gravy, seasoned with pepper, salt, anchovy, and shallot. Do not let it boil on any account. Before you serve, add two spoonfuls of vinegar. Garnish with crimped parsley.

FRICASSEE OF COLD ROAST BEEF.

Cut the beef into very thin slices, shred a handful of parsley very small, cut an onion into quarters, and put all together into a stew-pan, with a piece of butter and some strong broth; season with salt and pepper, and simmer very gently a quarter of an hour; then mix into it the yolks of two eggs, a glass of port wine, and a spoonful of vinegar; stir it quick, rub the dish with shallot, and turn the fricassee into it.

TO DRESS COLD BEEF THAT HAS NOT BEEN DONE
ENOUGH, CALLED BEEF-OLIVES.

Cut slices half an inch thick, and four inches square; lay them on forcemeat of crumbs of bread, shallot, a little suet, or fat, pepper and salt. Roll them, and fasten with a small skewer; put them into a stew-pan with some gravy made of beef bones, or the gravy of the meat, and a spoonful of water, and stew them till tender. Fresh meat will do.

TO MINCE BEEF.

Shred the underdone part fine, with some of the fat, put it into a small stew-pan, with some onion or shallot.

(a very little will do,) a little water, pepper, and salt; boil it till the onion is quite soft; then put some of the gravy of the meat to it, and the mince. Do not let it boil. Have a small hot dish with sippets of bread ready, and pour the mince into it, but first mix a large spoonful of vinegar with it; if shallot-vinegar is used, there will be no need of the onion nor the raw shallot.

TO HASH BEEF.

Do it the same as in the last receipt; only the meat is to be in slices, and you may add a spoonful of walnut liquor or catsup.

Observe that it is owing to *boiling* hash or minces, that they get hard. All sorts of stews, or meats dressed a second time, should be only simmered; and this last only hot through.

BEEF A-LA-VINGRETTE.

Cut a slice of underdone boiled beef three inches thick, and a little fat; stew it in half a pint of water, a glass of white wine, a bunch of sweet herbs, an onion, and a bay leaf; season it with three cloves pounded, and pepper, till the liquor is nearly wasted away, turning it once. When cold, serve it. Strain off the gravy, and mix it with a little vinegar for sauce.

ROUND OF BEEF.

Should be carefully salted, and wet with the pickle for eight or ten days. The bone should be cut out first, and the beef skewered and tied up, to make it quite round. It may be stuffed with parsley if approved; in which case the holes to admit the parsley must be made with a sharp pointed knife, and the parsley coarsely cut, and stuffed in tight.—As soon as it boils it should be skimmed, and afterwards kept boiling very gently.

ROLLED BEEF THAT EQUALS HARE.

Take the inside of a large sirloin, soak it in a glass of port wine and a glass of vinegar mixed, for forty-eight hours; have ready a very fine stuffing, and bind it

up tight. Roast it on a hanging spit, and baste it with a glass of port wine, the same quantity of vinegar, and a teaspoonful of pounded alspice.—Larding improves the look and flavor: serve with rich gravy in the dish; currant-jelly and melted butter in tureens.

TO ROAST TONGUE AND UDDER.

After cleaning the tongue well, salt it with common salt and saltpetre three days; then boil it, and likewise a fine young udder with some fat to it, till tolerably tender; then tie the thick part of one to the thin part of the other, and roast the tongue and udder.

Serve them with good gravy, and currant-jelly sauce. A few cloves should be stuck in the udder.

TO STEW TONGUE.

Salt a tongue with saltpetre and common salt for a week, turning it every day. Boil it tender enough to peel; when done, stew it in a moderately strong gravy; season with soy, mushroom catsup, Cayenne, pounded cloves, and salt, if necessary.

Serve with truffles, morels, and mushrooms. In both this receipt and the next, the roots must be taken off before salting, but some fat left.

AN EXCELLENT WAY OF DOING TONGUES TO EAT COLD.

Season with common salt and saltpetre, brown sugar, a little bay-salt, pepper, cloves, mace and alspice, in fine powder for a fortnight; then take away the pickle, put the tongue into a small pan, and lay some butter on it; cover it with brown crust, and bake slowly till so tender that a straw would go through it.

The thin part of tongues, when hung up to dry, grates like hung beef, and also makes a fine addition to the flavor of omelets.

BEEF-HEART.

Wash it carefully; stuff as a hare; and serve with rich gravy, and currant-jelly sauce. Hash with the same, and port wine.

STEWED OX-CHEEK, PLAIN.

Soak and cleanse a fine cheek the day before it is to be eaten; put it into a stew-pot that will cover close, with three quarts of water; simmer it after it has first boiled up and been well skimmed. In two hours put plenty of carrots, leeks, two or three turnips, a bunch of sweet herbs, some whole pepper, and four ounces of alspice. Skim it often; when the meat is tender take it out: let the soup get cold, take off the cake of fat, and serve the soup separate or with meat.

It should be a fine brown; which might be done by burnt sugar; or by frying some onions quite brown with flour, and simmering them with it. This last way improves the flavor of all soups and gravies of the brown kind.

If vegetables are not approved of in the soup, they may be taken out, and a small roll toasted, or bread fried and added. Celery is a great addition, and should always be served. Where it is not to be got, the seed of it gives quite as good a flavor, boiled in, and strained off.

TO DRESS OX-CHEEK ANOTHER WAY.

Soak half a head three hours, and clean it with plenty of water. Take the meat off the bones; and put it in a pan with a large onion, a bunch of sweet herbs, some bruised alspice, pepper and salt.

Lay the bones on the top: pour on two or three quarts of water, and cover the pan close with brown paper, or a dish that will fit close. Let it stand eight or ten hours in a slow oven; or simmer it by the side of the fire, or on a hot hearth. When done tender, put the meat into a clean pan and let it get cold.—Take the cake of fat off, and warm the head in pieces in the soup. Put what vegetables you choose.

MARROW BONES.

Cover the top with floured cloth; boil them and serve with dry toast.

TRIPE

May be served in a tureen, stewed with milk and onion till tender. Melted butter for sauce.

Or fry it in small bits dipped in batter.

Or stew the thin part, cut into bits, in gravy; thicken with flour and butter, and add a little catsup.

Or fricassee it with white sauce.

SOUSED TRIPE.

Boil the tripe, but not quite tender; then put it into salt and water, which must be changed every day till it is all used. When you dress the tripe, dip it into batter of flour and eggs, and fry it of a good brown.

PORK.

The sides of a hog are made into bacon, and the inside is cut out with very little meat to the bone. On each side there is a large spare-rib; which is usually divided into two, one sweet-bone, and a blade-bone. The bacon is the whole outside: and contains a fore-leg and a ham; which last is the hind-leg, but if left with the bacon, it is called a gammon.

TO ROAST A LEG OF PORK.

Choose a small leg of fine young pork: cut a slit in the knuckle with a sharp knife; and fill the space with sage and onion chopped, and a little pepper and salt. When half-done, score the skin in slices, but do not cut deeper than the outer rind.

Apple sauce and potatoes should be served to eat with it.

TO BOIL A LEG OF PORK.

Salt it eight or ten days: when it is to be dressed, weigh it; let it lie half an hour in cold water, to make it white: allow a quarter of an hour for every pound, and half an hour over for the time it boils up; skim it as soon as it boils, and frequently after. Allow water enough. Save some of it to make pea-soup. Some

boil it in a very nice cloth, floured; which gives a very delicate look. It should be small and of a fine grain. Serve pease-pudding and turnips with it.

LOIN AND NECK OF PORK.

Roast them. Cut the skin of the loin across, at distances of half an inch, with a sharp knife.

SHOULDERS AND BREASTS OF PORK.

Put them into pickle, or salt the shoulder as a leg: when very nice, they may be roasted.

SPARE-RIB

Should be basted with butter and a little flour, and then sprinkled with dried sage crumbled. Apple sauce and potatoes should be served up with roasted pork.

BLADE-BONE OF PORK

Is taken from the bacon-hog; the less meat left on it, in moderation, the better. It is to be broiled; and when just done, pepper and salt it. Put to it a piece of butter and a tea-spoonful of mustard; and serve it covered, quickly.

PORK STEAKS.

Cut them from a loin or neck, and of middling thickness: pepper and broil them, turning them often; when nearly done, put on salt, rub a bit of butter over, and serve the moment they are taken off the fire, a few at a time.

SAUSAGES.

Chop fat and lean pork together; season it with sage, pepper, and salt, and you may add two or three berries of alspice; *half fill* hog's intestines that have been soaked and made clean: or the meat may be kept in a very small pan closely covered: and so rolled and dusted with very little flour before it is fried. They must be pricked with a fork before they are dressed, or they will burst.

AN EXCELLENT SAUSAGE TO EAT COLD.

Season lean and fat pork with some salt, saltpetre, black pepper, and alspice, all in fine powder, and rub into the meat; the sixth day cut it small, and mix with it some shred shallot or garlic, as fine as possible.—Have ready an ox-intestine that has been scoured, salted, and soaked well, and fill it with the above stuffing; tie up the ends, and hang it to smoke as you would hams, but first wrap it in a fold or two of old muslin. It must be high-dried. Some eat it without boiling, but others like it boiled first. The skin should be tied in different places, so as to make each link about eight or nine inches long.

TO ROAST A PIG.

If you can get it when just killed, this is of great advantage. Let it be scalded, which the dealers usually do; then put some sage, crumbs of bread, salt, and pepper, into the belly, and sew it up. Observe to skewer the legs back, or the under part will not crisp.

Lay it to a brisk fire till thoroughly dry; then have ready some butter in a dry cloth, and rub the pig with it in every part. Dredge as much flour over as will possibly lie, and do not touch it again till ready to serve; then scrape off the flour very carefully with a blunt knife, rub it well with the buttered cloth. When done, take it up; and without withdrawing the spit, cut it down the back and belly, lay it into the dish, and chop the sage and bread quickly, as fine as you can, and mix them with a large quantity of fine melted butter that has very little flour. Put the sauce into the dish after the pig has been split down the back, and garnished with the ears and the two jaws; take off the upper part of the head down to the snout.

TO MAKE EXCELLENT MEAT OF A HOG'S HEAD.

Split the head, take out the brains, cut off the ears, and sprinkle it with common salt for a day; then drain it: salt it well with common salt and saltpetre three days, then lay the salt and head into a small quantity of

water for two days. Wash it, and boil it till all the bones will come out; remove them, and chop the head as quick as possible: but first skin the tongue, and take the skin carefully off the head, to put under and over. Season with pepper, salt, and a little mace or alspice berries. Put the skin into a small pan, press the cut head in, and put the other skin over; press it down. If too fat, you may put a few bits of lean pork to be prepared the same way. Add salt and vinegar, and boil these with some of the liquor for a pickle to keep it.

JELLY OF PIG'S FEET AND EARS.

Clean and boil them in a very small quantity of water, till every bone can be taken out; throw in half a handful of chopped sage, the same of parsley, and a seasoning of pepper, salt, and mace in fine powder;—simmer till the herbs are scalded, then pour the whole off to cool.

MUTTON.

OBSERVATIONS ON CUTTING AND DRESSING MUTTON.

Take away the pipe that runs along the bone of the inside of a chine of mutton; and if to be kept a great time, rub the part close round the tail with salt, after first cutting out the kernel.

Every kernel should be taken out of all sorts of meats as soon as brought in: then wipe dry.

For roasting, it should hang as long as it will keep, the hind quarter especially, but not so long as to taint; for whatever fashion may authorize, putrid juices ought not to be taken into the stomach.

NECK OF MUTTON.

This is particularly useful, as so many dishes may be made of it; but it is not advantageous for the family. The bones should be cut short, which the butchers will not do unless particularly desired.

The best end of the neck may be boiled, and served with turnips, or roasted, or dressed in steaks, and in pies.

The scrag may be stewed in broth; or with a small quantity of water, some small onions, a few peppercorns, and a little rice, and served together. When a neck is to be boiled to look particularly nice, saw down the chine-bone, strip the rib halfway down, and chop off the ends of the bones about four inches. The skin should not be taken off till boiled.

TO DRESS A HAUNCH OF MUTTON.

Keep it as long as it can be preserved sweet by the different modes; let it be washed with warm milk and water, or vinegar, if necessary; but when to be dressed, observe to wash it well lest the outside should have a bad flavour from keeping. Put a paste of coarse flour or strong paper, and fold the haunch in; set it a great distance from the fire, and allow a proportionable time for the paste; do not take it off till about thirty-five or forty minutes before serving, and then baste it continually. Bring the haunch nearer to the fire before you take off the paste, and froth it up as you would venison.

A gravy must be made of a pound and a half of loin of old mutton, simmered in a pint of water to half, and no seasoning but salt; brown it with a little burnt sugar, and send it up in the dish; but there should be a good deal of gravy in the meat, for though long at the fire, the distance and covering will prevent its roasting out. Serve with currant-jelly sauce.

TO ROAST A SADDLE OF MUTTON.

Let it be well kept first. Raise the skin and then skewer it on again; take it off a quarter of an hour before serving, sprinkle it with some salt, baste it, and dredge it well with flour. The rump should be split, and skewered back on each side. The joint may be large or small according to the company; it is the most elegant if the latter. Being broad, it requires a high and strong fire.

BREAST OF MUTTON.

Cut off the superfluous fat, and roast and serve the meat with stewed cucumbers; or to eat cold, covered with chopped parsley. Or half broil, and then grill it before the fire; in which case cover it with crumbs and herbs, and serve with caper-sauce.—Or if boned, take off a good deal of fat, and cover it with bread, herbs, and seasoning, then roll, boil, and serve with capers and butter.

TO ROLL LOIN OF MUTTON.

Hang the mutton till tender; bone it; and lay a seasoning of pepper, alspice, nutmeg, and a few cloves, all in fine powder, over it. Next day prepare a stuffing as for hare; beat the meat, and cover it with the stuffing; roll it up tight, and tie it. Half-bake it in a slow oven; let it grow cold; take off the fat, and put the gravy into a stew pan; flour the meat, and put it in likewise, stew it till almost ready, and add a glass of port wine, some catsup, an anchovy, and a little lemon pickle, half an hour before serving; serve it in the gravy, and with jelly sauce. A few mushrooms are a great improvement; but if to eat like hare, do not use these, nor the lemon pickle.

MUTTON COLLOPS.

Take a loin of mutton that has been well hung; and cut from the part next the leg, some collops very thin. Take out the sinews. Season the collops with salt, pepper, and mace; and strew over them shred parsley, thyme, and two or three shallots; fry them in butter till half done; add half a pint of gravy, a little juice of lemon, and a piece of butter rubbed in flour; and simmer the whole very gently five minutes. They should be served immediately, or they will be hard.

MUTTON STEAKS.

These should be cut from a loin or neck; if a neck, the bones should not be long. They should be broiled on a clear fire, seasoned when half done, and often

turned; take them up into a very hot dish, rub a bit of butter on each, and serve hot the moment they are done.

MUTTON SAUSAGE.

Take a pound of the rawest part of a leg of mutton that has been either roasted or boiled; chop it extremely small, and season it with pepper, salt, and nutmeg; add to it six ounces of beef suet, some sweet herbs, two anchovies, and a pint of oysters; all chopped very small; a quarter of a pound of grated bread, some of the anchovy liquor, and the yolks and whites of two eggs well beaten. Put it all, when well mixed, into a little pot, and use it by rolling it into balls of a sausage-shape and frying.

AN EXCELLENT HOTCH-POTCH.

Stew pease, lettuce, and onions, in a very little water, with a beef or ham bone. While these are doing, fry some mutton or lamb steaks seasoned, of a nice brown; three quarters of an hour before dinner, put the steaks into a stew-pan, and the vegetables over them; stew them, and serve altogether.

LAMB.

LEG OF LAMB.

This should be boiled in a cloth to look as white as possible. The loin should be fried in steaks and served round, garnished with dried or fried parsley, spinach to eat with it; or dressed separately or roasted.

FORE-QUARTER OF LAMB.

Roast it either whole or in separate parts. If left to be cold, chopped parsley should be sprinkled over it. The neck and breast together are called a scoven.

BREAST OF LAMB AND CUCUMBERS.

Cut off the chin-bone from the breast, and set it on to stew with a pint of gravy. When the bones would

draw out, put it on the gridiron to grill; and then lay it in a dish of cucumbers nicely stewed.

LAMB STEAKS.

Fry them to a beautiful brown color; when served throw over them a good quantity of crumbs of bread fried, and crimped parsley.

Mutton or lamb-steaks seasoned or broiled in buttered papers, either with crumbs and herbs, or without, are a genteel dish, and are palatable.

A VERY NICE DISH.

Take the best end of the neck of lamb, cut it into steaks, and chop each bone so short as to make the steaks almost round. Egg, and stew with crumbs, herbs, and seasoning; fry them of the finest brown, mash some potatoes with a little butter and cream, and put them into the middle of the dish raised high. Then place the edge of one steak on another with the small bone upwards, all round the potatoes.

VEAL.

TO KEEP VEAL.

The first part that turns bad of a leg of veal, is where the udder is skewered back. The skewer should be taken out, and both that and the meat under it wiped very dry, by which means it will keep good three or four days in hot weather.

LEG OF VEAL.

Let the fillet be cut large or small, as best suits the number of your company. Take out the bone, fill the space with fine stuffing, and let it be skewered quite round; and send the large side uppermost. When half roasted, if not before, put a paper over the fat; and take care to allow a sufficient time, and put it a good distance from the fire, as the meat is very solid; serve with melted butter poured over it.

KNUCKLE OF VEAL.

As few people are fond of boiled veal, it may be well to leave the knuckle small, and take off some cutlets or collops before it be dressed; and as the knuckle will keep longer than the fillet, it is best not to cut off the slices till wanted. Break the bone to make it take less room; wash it well; and put it in a saucepan with three onions, a blade or two of mace, and a few pepper-corns; cover it with water, and simmer it till quite ready. In the mean time some macaroni should be boiled with it if approved, or rice, or a little rice flour, to give it a small degree of thickness. Before it is served, add half a pint of milk and cream, and let it come up either with or without the meat.

Or fry the knuckle with sliced onions and butter to a good brown; and have ready pease, lettuce, onion, and a cucumber or two, stewed in a small quantity of water, an hour; then add these to the veal; and stew it till the meat is tender enough to eat, but not overdone. Throw in pepper, salt, and a bit of shred mint, and serve altogether.

SHOULDER OF VEAL.

Cut off the knuckle, for a stew or gravy. Roast the other part for stuffing; you may lard it. Serve with melted butter.

The blade-bone, with a good deal of meat left on, eats extremely well with mushroom or oyster-sauce, or mushroom-catsup in butter.

NECK OF VEAL.

Cut off the scrag to boil, and cover it with onion sauce. It should be boiled in milk and water. Parsley and butter may be served with it, instead of onion-sauce.

Or it may be stewed with whole rice, small onions, and pepper-corns, with a very little water.

Or boiled, eaten with bacon and greens.

The breast end may be either roasted, broiled as steaks, or made into pies.

NECK OF VEAL A-LA-BRAISE.

Lard the breast end with bacon rolled in parsley chopped fine, salt, pepper, and nutmeg: put it into a tasser, and cover it with water. Put to it the scrag-end, a little lean bacon or ham, an onion, two carrots, two heads of celery, and about a glass of Madeira wine. Stew it quick two hours, or till it is tender, but not too much. Strain off the liquor: mix a little flour and butter in a stew-pan till brown, and lay the veal in this, the upper side to the bottom of the pan. Let it be over the fire till it gets colored; then lay it into the dish, stir some of the liquor in and boil it up, skim it nicely, and squeeze orange or lemon-juice into it.

BREAST OF VEAL.

Before roasted, if large, the two ends may be taken off and fried, or the whole may be roasted. Butter should be poured over it.

If any be left, cut the pieces into handsome sizes, put them into a stew-pan, and pour some broth on it; or if you have no broth, a little water will do: add a bunch of herbs, a blade or two of mace, some pepper and an anchovy; stew till the meat is tender, thicken with butter and flour; and a little catsup.

Serve the sweet bread whole upon it, which may either be stewed, or parboiled, and then covered with crumbs, herbs, pepper, and salt, and browned in a Dutch oven.

TO POT VEAL OR CHICKEN WITH HAM.

Pound some cold veal or white of chicken seasoned as directed in the last article, and put layers of it with layers of ham pounded or rather shred; press each down, and cover with butter.

VEAL COLLOPS.

Cut long thin collops; beat them well, and lay on them a bit of thin bacon of the same size, and spread forcemeat on that, seasoned high, and also a little Cayenne. Roll them up tight, about the size of two fingers,

but no more than two or three inches long; put a very small skewer to fasten each firmly; rub egg over them: fry to a fine brown, and pour a rich brown gravy over.

VEAL CAKE.

Boil six or eight eggs hard; cut the yolks in two, and lay some of the pieces in the bottom of the pot: shake in a little chopped parsley, some slices of veal and ham, then add eggs again; shaking in after each some chopped parsley, with pepper and salt, till the pot is full. Then put in water enough to cover it, and lay on it about an ounce of butter; tie it over with a double paper, and bake it about an hour. Then press it close together with a spoon, and let it stand till cold.

It may be put into a small mould; and then it will turn out beautifully for a supper or side dish.

TO BOIL CALF'S HEAD.

Clean it very nicely, and soak it in water till white; take out the tongue to salt, and the brains to make a little dish. Boil the head extremely tender; then strew it over with crumbs and chopped parsley, and brown them; or if liked better, leave one side plain. Bacon and greens are to be served with it.

The brains must be boiled; and then mixed with melted butter, scalded sage chopped, pepper, and salt.

If any of the head is left, it may be hashed next day, and a few slices of bacon just warmed and put round. Cold calf's head eats well if grilled.

CALF'S HEAD FRICASEED.

Clean and half boil a head; cut the meat into small bits, and put it into a tosser, with a little gravy made of the bones, some of the water it was boiled in, a bunch of sweet herbs, an onion, and a blade of mace. Season the gravy with a little pepper, nutmeg, and salt, rub down some flour and butter, and give all a boil together; then take out the herbs and onion, and add a little cup of cream, but do not boil it in. Serve with small bits of bacon rolled round, and balls.

MOCK TURTLE.

Squeeze the juice of a lemon into the turcen, and pour the soup upon it.

Prepare half a calf's head *without* the skin: when the meat is cut off, break the bones, and put them into a sauce-pan with some gravy made of beef and veal bones, and seasoned with fried onions, herbs, mace, and pepper. Have ready two or three ox-palates boiled so tender as to blanch, and cut into small pieces; to which a cow heel, likewise cut into pieces, is a great improvement. Brown some butter, flour, and onion, and pour the gravy to it; then add the meats as above, and stew. Half a pint of sherry, an anchovy, two spoonfuls of walnut catsup, the same of mushroom catsup, and some chopped herbs.

SOUPS AND GRAVIES.

GENERAL DIRECTIONS RESPECTING SOUPS AND GRAVIES.

When there is any fear of gravy-meat being spoiled before it be wanted, season well, and fry it lightly, which will preserve it two days longer; but the gravy is best when the juices are fresh.

When soups or gravies are to be put by, let them be changed every day into fresh scalded pans. Whatever has vegetables boiled in it, is apt to turn sour sooner than the juices of meat. Never keep any gravy, &c. in metal.

When fat remains on any soup, a tea-cupful of flour and water mixed quite smooth, and boiled in, will take it off.

If richness or greater consistency be wanted, a good lump of butter mixed with flour, and boiled in the soup, will give either of these qualities.

Long boiling is necessary to give the full flavor of the ingredients, therefore time should be allowed for soups and gravies; and they are best if made the day before they are wanted.

Soups and gravies are far better when the meat is put at the bottom of the pan, and stewed, and the herbs, roots, &c. with butter, than when water is put to the

meat at first; and the gravy that is drawn from the meat should be almost dried up before the water is put to it. Do not use the sediment of gravies, &c. that have stood to be cold. When onions are strong, boil a turnip with them, if for sauce: this will make them mild.

If soups or gravies are too weak, do not cover them up in boiling, that the watery particles may evaporate.

A clear jelly of cow-heels is very useful to keep in the house, being a great improvement to soups and gravies.

VEAL BROTH.

Stew a small knuckle in about three quarts of water, two ounces of rice, a little salt, and a blade of mace, till the liquor is half wasted away.

A PLAINER WHITE SOUP.

Two or three pints of soup may be made of a small knuckle of veal, with the proper seasoning; and both served together, with the addition of a quarter of a pint of good milk. Two spoonfuls of cream, and a little ground rice, will give it a proper thickness.

OLD PEASE SOUP.

Save the water of boiling pork or beef; and if too salt, put as much fresh water to it; or use fresh water entirely, with roast beef bones, a ham or gammon-bone, or an anchovy or two. Simmer these with some good whole or split pease; the smaller the quantity of water at first, the better. Simmer till the pease will pulp through a colander: then set the pulp, and more of the liquor that boiled the pease, with two carrots, a turnip, a leek, and a stick of celery cut into bits, to stew till all is quite tender. The last requires less time; an hour will do for it.

When ready, put fried bread cut into dice, dried mint rubbed fine, pepper, and (if wanted) salt, into the tureen.

GRAVY SOUP.

Wash and soak a leg of beef: crack the bone, and set it on the fire with a gallon of water, a large bunch of sweet herbs, two large onions sliced and fried a fine brown, (but not burnt,) two blades of mace, three cloves, twenty berries of alspice, and forty black peppers. Stew till the soup is as rich as you choose; then take out the meat. Next day take off the cake of fat; which will serve for basting, or for common pie-crust. Have ready such vegetables as you choose to serve. Cut carrots, turnips, and celery, small, and simmer till tender.

OX-RUMP SOUP.

Two or three rumps of beef will make it stronger than a much larger quantity of meat without these, and form a very nourishing soup. Make it like gravy soup, and give it what flavor or thickness you like.

PUDDINGS.

OBSERVATIONS ON MAKING PUDDINGS AND PANCAKES.

The outside of a boiled pudding often tastes disagreeably; which arises from the cloth not being nicely washed, and kept in a dry place. It should be dipped in boiling water, squeezed dry, and floured when to be used.

If bread, it should be tied loose; if batter, tight over.

The water should boil quick when the pudding is put in; and it should be moved about for a minute, lest the ingredients should not mix.

Batter pudding should be strained through a coarse sieve, when all is mixed. In others, the eggs separately.

The pans and basins must be always buttered.

A pan of cold water should be ready, and the pudding dipped in as soon as it comes out of the pot, and then it will not adhere to the cloth.

Very good pudding may be made without eggs, but they must have as little milk as will mix, and must boil three or four hours. A few spoonfuls of fresh small beer, or one of yeast will answer instead of eggs.

ALMOND PUDDING.

Beat half a pound of sweet and a few bitter almonds with a spoonful of water; then mix four ounces of butter, four eggs, two spoonfuls of cream warm with butter, one of brandy, a little nutmeg, and sugar to taste. Butter some cups, half fill, and bake the pudding. Serve with butter, wine, and sugar.

BAKED ALMOND PUDDING.

Beat fine four ounces of almonds, four or five bitter ditto, with a little wine, yolks of six eggs, peel of two lemons grated, six ounces of butter, near a quart of cream, and juice of one lemon. When well mixed, bake it half an hour, with paste round the dish.

BREAD AND BUTTER PUDDING.

Slice bread, spread with butter, and lay it in a dish with currants between each layer; and sliced citron, orange, or lemon; if to be very nice. Pour over an unboiled custard of milk, and two or three eggs, two hours at least, before it is to be baked.

ORANGE PUDDING.

Grate the rind of an orange; put to it six ounces of fresh butter, six or eight ounces of lump-sugar pounded: beat them all in a mortar, and add as you do it, the whole of eight eggs well beaten and strained; scrape a raw apple, and mix with the rest; put a paste at the bottom and sides of the dish, and over the orange mixture put cross bars of paste. It will bake in half an hour.

AN EXCELLENT LEMON PUDDING.

Beat the yolks of four eggs; add four ounces of white sugar, the rind of a lemon being rubbed with some lumps of it to take the essence: then peel, and beat it in a mortar with the juice of a large lemon, and mix all with four or five ounces of butter warmed. Put a crust into a shallow dish, nick the edges, and put the above into it. When served turn the pudding out of the dish.

BAKED APPLE PUDDING.

Pare and quarter four large apples; boil them tender with the rind of a lemon, in so little water that, when done, none may remain; beat them quite fine in a mortar; add the crumb of a small roll, four ounces of butter, melted; the yolks of five and whites of three eggs, juice of half a lemon, and sugar to taste: beat all together, and lay it in a dish with paste.

A DUTCH RICE PUDDING.

Soak four ounces of rice in warm water half an hour; drain the latter from it, and throw it into a stew-pan, with half a pint of milk, half a stick of cinnamon, and simmer till tender. When cold, add four eggs well beaten, two ounces of butter melted in a tea-cupful of cream; and put into it three ounces of sugar, a quarter of a nutmeg, and a good piece of lemon-peel.

Put a light puff paste into the dish, and bake in a quick oven.

LITTLE BREAD PUDDING.

Steep the crumbs of bread, in about a pint of warm milk; when soaked, beat six eggs, whites and yolks, and mix with the bread, two ounces of butter warmed, sugar, orange-flower water, a spoonful of brandy, a little nutmeg, and a tea-cupful of cream. Beat all well, and bake in a tea-cup buttered. If currants are chosen, a quarter of a pound is sufficient; if not, they are good without, or you may put in orange or lemon-candy. Serve with pudding-sauce.

BATTER PUDDING.

Rub three spoonfuls of fine flour extremely smooth by degrees into a pint of milk: simmer till it thickens, stir in two ounces of butter, set it to cool; then add the yolks of three eggs; flour a cloth that has been wet, or butter a basin, and put the batter into it; tie it tight, and plunge it into boiling water, the bottom upwards. Boil it an hour and a half, and serve with plain butter.

If approved, a little ginger, nutmeg, and lemon-peel, may be added. Serve with sweet sauce.

A RICH RICE PUDDING.

Boil half a pound of rice in water, with a little bit of salt, till quite tender, drain it dry; mix it with the yolks and whites of four eggs, a quarter of a pint of cream, with two ounces of fresh butter melted in the latter, four ounces of beef-suet or marrow, or veal-suet taken from a fillet of veal, finely shred, three quarters of a pound of currants, two spoonfuls of brandy, one of peach-water, nutmeg, and grated lemon-peel. When well mixed, put a paste round the edge and fill the dish. Slices of candied orange, lemon, and citron if approved, may be put in. Bake in a moderate oven.

BAKED RICE PUDDING.

Swell rice as above; then add some more milk, an egg, sugar, alspice, and lemon peel. Bake in a deep dish.

AN EXCELLENT POTATO PUDDING.

Take eight ounces of boiled potatoes, two ounces of butter, the yolks and white of two eggs, a quarter of a pint of cream, one spoonful of white wine, a little salt, the juice and rind of a lemon; beat all to froth; and sugar to taste.

BEEF STEAK PUDDING.

Prepare some fine steaks; roll them in fat. Lay a paste of suet in a basin, and put in the rollers of steaks: cover the basin with a paste, and pinch the edges to keep the gravy in. Cover with a cloth tied close: and let the pudding boil slowly, but for a length of time.

CUSTARD PUDDING.

Mix by degrees a pint of good milk with a large spoonful of flour, the yolks of five eggs, some orange-flower water, and a little pounded cinnamon. Butter a basin that will exactly hold it, pour the batter in, and

tie a floured cloth over. Put in boiling water over the fire, and turn it about a few minutes to prevent the egg going to one side. Half an hour will be sufficient to boil it.

Put currant jelly on it, and serve with sweet-sauce.

A QUICK MADE PUDDING.

Take flour and suet half a pound of each, four eggs, a quarter of a pint of new milk, a little mace and nutmeg, a quarter of a pound of raisins, ditto of currants: mix well, and boil three quarters of an hour.

FINE PANCAKES WITHOUT BUTTER OR LARD.

Beat six fresh eggs, well; mix, when strained, with a pint of cream, four ounces of sugar, a glass of wine, half a nutmeg grated, and as much flour as will make it almost as thick as ordinary pancake-batter. Heat the frying-pan tolerably hot, wipe it with a clean cloth, then pour in the batter to make thin pancakes.

PANCAKES OF RICE.

Boil half a pound of rice to a jelly, in a small quantity of water; when cold, mix it with a pint of cream, eight eggs, a bit of salt, and nutmeg; stir in eight ounces of butter just warmed, and add as much flour as will make the batter thick enough. Fry in as little lard or dripping as possible.

FRITTERS.

Make them of any of the batters directed for pancakes, by dropping a small quantity into the pan; or make the plainer sort, and put pared apple, sliced and cored, into the batter, and fry some of it with each slice. Currants or sliced lemons as thin as paper, make an agreeable change.

POTATO FRITTERS.

Boil two large potatoes, scrape them fine; beat four yolks and three whites of eggs, and add to the above one large spoonful of cream, another of sweet wine, a

squeeze of lemon, and a little nutmeg. Beat this batter half an hour at least. It will be extremely light.

Put a good quantity of fine lard in a stew-pan, and drop a spoonful of the batter at a time into it. Fry them; and serve as a sauce, a glass of white wine, the juice of a lemon, one dessert-spoonful of peach-leaf or almond-water, and some white sugar, warmed together.

PASTRY.

RICH PUFF PASTE.

Puffs may be made of any sort of fruit, but it should be prepared first with sugar.

Weigh an equal quantity of butter with as much fine flour as you judge necessary; mix a little of the former with the latter, and wet it with as little water as will make it into a stiff paste. Roll it out, and put all the butter over it in slices, turn in the ends, and roll it thin: do this twice, and touch it no more than can be avoided.

EGG MINCE PIES.

Boil six eggs hard, shred them small; shred double the quantity of suet; then put currants washed and pickled, one pound, or more if the eggs were large; the peel of one lemon shred very fine, and the juice, six spoonfuls of sweet wine, mace, nutmeg, and sugar, a very little salt; orange, lemon, and citron, candied. Make a light paste for them.

PRUNE TART.

Give prunes a scald, take out the stones, and break them; put the kernels into a little cranberry-juice, with the prunes and sugar, simmer: and when cold, make a tart of the sweetmeat.

EXCELLENT LIGHT PUFF.

Mix two spoonfuls of flour, a little grated lemon-peel, some nutmeg, half a spoonful of brandy, a little loaf sugar, and one egg; then fry it enough, but not brown; beat it in a mortar with five eggs, whites and yolks;

put a quantity of lard in a frying-pan, and when quite hot, drop a dessert-spoonful of butter at a time: turn them as they brown. Serve them immediately with sweet sauce.

SOLID SYLLABUB.

To a quart of rich cream put a quart of white wine, the juice of two lemons, with the rind of one grated, and sweeten it. Whip it up well and take off the froth as it rises. Put it upon a hair sieve, and let it stand in a cool place till the next day. Then half fill the glasses with the scum, and heap up the froth as high as possible. The bottom will look clear and it will keep several days.

CURRENT JELLY.

Take the juice of red currants, 1 lb. sugar. Boil them down.

Another method.—Take the juice of red currants, add white sugar, equal quantities.

Stir it gently and smoothly for three hours, put it into glasses, and in three days it will concrete into a firm jelly.

DAIRY.

TO PROCURE PROFITABLE COWS.

Suppose a farmer to resolve that he would keep no cow that did not hold out a good milker six months in the year—and that did not give sixteen quarts of milk per day for two months after calving, and twelve quarts per day the next three months, and two quarts per day the month following.—Such a cow would yield per annum 2100 quarts of milk.

Is it not practicable to have throughout the country, a common dairy stock of animals as good as the last described?

The question is submitted to farmers for consideration. The probability is that in taking some pains to get stock as good, they would get even better.

If the various modes of obtaining this object were resorted to at once, and with zeal, throughout the country, there would be a prodigious improvement in a very short time. No young animal of promising appearance would go to the butcher. More care would be taken of young stock. More young stock would be retained to insure a better selection of milch cows.—Farmers would think more of the advantages of employing bulls of the improved breeds. Heifers should be milked with great care, and very thoroughly, to get them in the habit of holding out as long milkers. If they once dry early, no care and keeping afterwards will correct this fault. Heifers with the first calf should be fed well with some additional care the last three months they are in milk, to make them hold out.

The profit of a milch cow is not generally understood. Milk is not only the most nutritious but the cheapest article of food. The food necessary for a cow in full milk, does not exceed in price, one third of what is necessary in feeding for the butcher.

TO SHORTEN THE TIME AND DIMINISH THE LABOR OF MAKING BUTTER.

The component parts of milk are oil, curd and whey. The oily parts constitute the cream, and the curd makes the cheese. The oily parts being specifically lighter than the other parts of the substance, ascends to the surface in the form of cream.

In winter, four or five days, according to the common practice, are necessary to produce all the cream of a pan of milk. Such cream from this tedious process not unfrequently acquires a bitter taste, which is communicated to the butter. And the churning of butter from such cream is moreover an operation of four or five hours, and sometimes longer, unless hot water be poured into the cream, which invariably injures the butter by rendering it white and insipid.

To shorten the time and to diminish the labor of making butter, and at the same time to improve its quality, there has been recently established in the Dairy House

of Mr. R. Smith's Farm, called Orange, an apparatus upon the simplest principles imaginable. During the coldest weather in winter, in the course of less than twenty-four hours after the milk has been taken from the cows, sweet cream is produced, greater in quantity and richer in quality, than can be obtained in the ordinary management in five days. So rich, indeed, is the cream, that it is churned with as much facility as is the rich cream of the Alderney cows, in the summer season. The operation of churning never exceeds twenty-five minutes. The butter from such cream has never failed to be of a fine flavor and of fine color; and in the nature of things it never can fail to be so, unless the dairy woman should be utterly ignorant of the art of making sweet butter. The process is not a new invention. According to the principles of the system pursued at Orange, is made the sweet butter which, in England, is the most admired. The part of the course of proceeding, not in common use, is this: The pans, with the milk just taken from the cows, remain until a thin skim of cream is produced. They are then placed in hot water, and in about 30 minutes thereafter, all the cream, contained in the milk, is found on the surface. The cream thus obtained is managed as other rich cream is in all well conducted dairies.

The skimmed milk, consisting of curd and whey, without any of the buttery parts, has a peculiar sweetness, is extremely pleasant to the taste, and is deemed a very wholesome beverage.

FABRICATION OF POTATO CHEESE.

In the Bulletin of the Societe d'Encouragement, for the month of September, 1829, is an article on the fabrication of cheese from potatoes, of which the following is an extract, from the correspondence of M. Fahrenburg.

There is made, in Thuringe and in a part of Saxony, cheese from potatoes, which is very much esteemed: this is the mode of preparing it.

After having selected the best kind of potatoes, they are boiled; when cooled, they are peeled and reduced to a pulp, either by a grater, or in a mortar: to five pounds of the pulp, which should be equally fine and homogeneous, is added a pound of sour milk with a sufficient quantity of salt; the whole is well kneaded, then covered up and left to repose for three or four days, according to the season of the year: at the end of that time, the mixture is again kneaded, and then put into small baskets, to divest it of the superfluous humidity. Afterward it is placed in the shade to dry and then it is packed in layers in large jars, or casks, where it is left for fifteen days. The older this cheese grows, the better it is.

There are three kinds made: the first, which is the most common, is prepared in the proportions above named; the second, with four parts of potatoes and two of curd; the third with two pounds of potatoes and four pounds of milk.

The potato cheese has this advantage over common cheese, it never engenders maggots, and it keeps perfectly well for several years, provided it is placed in a dry situation and in close vessels.

I have repeated this experiment with the proportions of the second quality. This was the method pursued. The potatoes were boiled, peeled, and crushed with the hands. If the fabrication was carried on extensively, the machine used for reducing the potatoes in distilleries, could be used. The milk was heated, and curdled with vinegar, as no runnet was at command. After this operation, the milk was mixed with the potatoes; the mass was salted, then it was passed through a hair sieve, to pulverise it thoroughly and make the mixture perfect; this mass, covered with salt, was left for ten or twelve days in an earthen pan; at this period it was distributed, for want of baskets, on sieves, where it drained and became moulded into regular forms. The sieves were lined with a linen cloth before the mixture was put into them. Fifteen days after this draining operation, which had been aided a little by pressure, the cheeses were placed, enveloped in their cloths, be-

tween osier hurdles and put into the cellar. At this time the gaseous fermentation is well developed, the cheeses are yet very soft, and there is formed on the surface a skin of mould. The cheese taste is very sensible, and not disagreeable, and I think this kind of cheese can be advantageously made by the farmers.

DIRECTIONS FOR MAKING GOOD BUTTER.

Butter forms an important item in the produce of the farm, as well as the necessaries for the table. It is of the utmost importance to the farmer who resides near a large town, to establish his reputation for bringing to market fine butter. This is not only profitable of itself, but gives a comparative recommendation to every thing he has to dispose of. How often do we hear the expression in families, "that they bought such an article of Mr. C. who makes the best butter that is brought into our market." When a man has established his reputation for an article, he not only finds a readier sale for it, but gets a greater price. This is particularly the case with butter. Who among us does not prefer paying two or three cents a pound for a fine, fresh, well flavored article, over the rank, marbled, greasy-looking stuff which is seen daily in our markets? Now the milk for the one was as good as for the other—the only difference being in the manner of making. Having been acquainted with the course pursued by some eminent dairymen and women who preserve their butter through the season fine and fresh, we give the following directions:—

1st. Let your dairy-room be kept cool, and not only the room, but every utensil used in it, be kept from any rancid, sour, or unpleasant smell.

2d. Let the milk with the cream be put in the churn as soon as sour, before any putrid fermentation takes place.

Butter is found to be of better flavor when churned with the milk, than when the cream is churned separately. Let the churning be continued until the butter is well collected, after which it should be taken out

with a ladle and set in a cool place to harden: it should then be worked over with the ladle until perfectly freed from the butter-milk. In no part of the process should the butter be touched with the hands, but be handled entirely with the ladle and paddles. In hot weather it is sometimes worked with paddles in clear cold water, which assists in extracting the buttermilk. After the butter has been worked a sufficient time to give it, as the dealers say, a "good grain," salt it moderately. If to each pint of salt one ounce of fine sugar is added, it improves the flavor. If the butter is designed to be taken soon to market, let it be worked in small cakes of one pound each, handsomely marked or stamped, and put by in a cool place, and taken to market in the morning. But if it is designed to be kept through the season, let it be packed in a firkin and set by in a cool place for a few days, when the butter will be found to have shrunk from the sides of the firkin: the head should be put in, and through a hole bored in it, the cavity should be filled with strong brine, the hole stopped, and the firkin reversed—by which the butter will cleave from the head which was at the bottom, and become perfectly surrounded with a streak of brine; in which situation it may be kept sweet through the season.

TO PREVENT MILK BECOMING SOUR.

To prevent milk from becoming sour and curdling as it is apt to do in the heat of summer, the milk-men of Paris add a small quantity of sub-carbonate of potash or soda, which saturating the acid as it forms, prevents the coagulating or separating of curds, and some of them practice this with so much success as to gain the reputation of selling milk that never sours. Often when the coagulation has taken place, they restore the fluidity by a greater or less addition of the fixed alkalis. The acetate which is then formed has no injurious effects, and besides, milk contains naturally a small quantity of acetate, but not an atom of really a carbonated alkali.

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